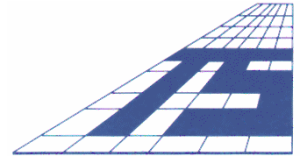


Terra Search Pty Ltd

A.B.N. 59 011 073 939

Specialists in Mineral Exploration:
Geology and Computing



GROUND MAGNETIC SURVEY: NOB CREEK
100 km north west of Rockhampton, Queensland.
COMPLETED FOR KENEX.
Field data collected May 2008.
Processed by Terra Search Pty Ltd.

Ground Magnetic Operators:
Josh Gander
Evelin Woelk
Data/GIS Processor:
Tim Beams BSc (Hons) Physics

Terra Search Pty Ltd
For Kenex Pty Ltd

Townsville
August 2008

Document # KEN2008001
TS Shelf Ref # 2008/011

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1. Survey Overview

Client: Kenex

Survey Date: May 2008

Data Processed and Delivered: August 2008

Tenements: EPM 16427

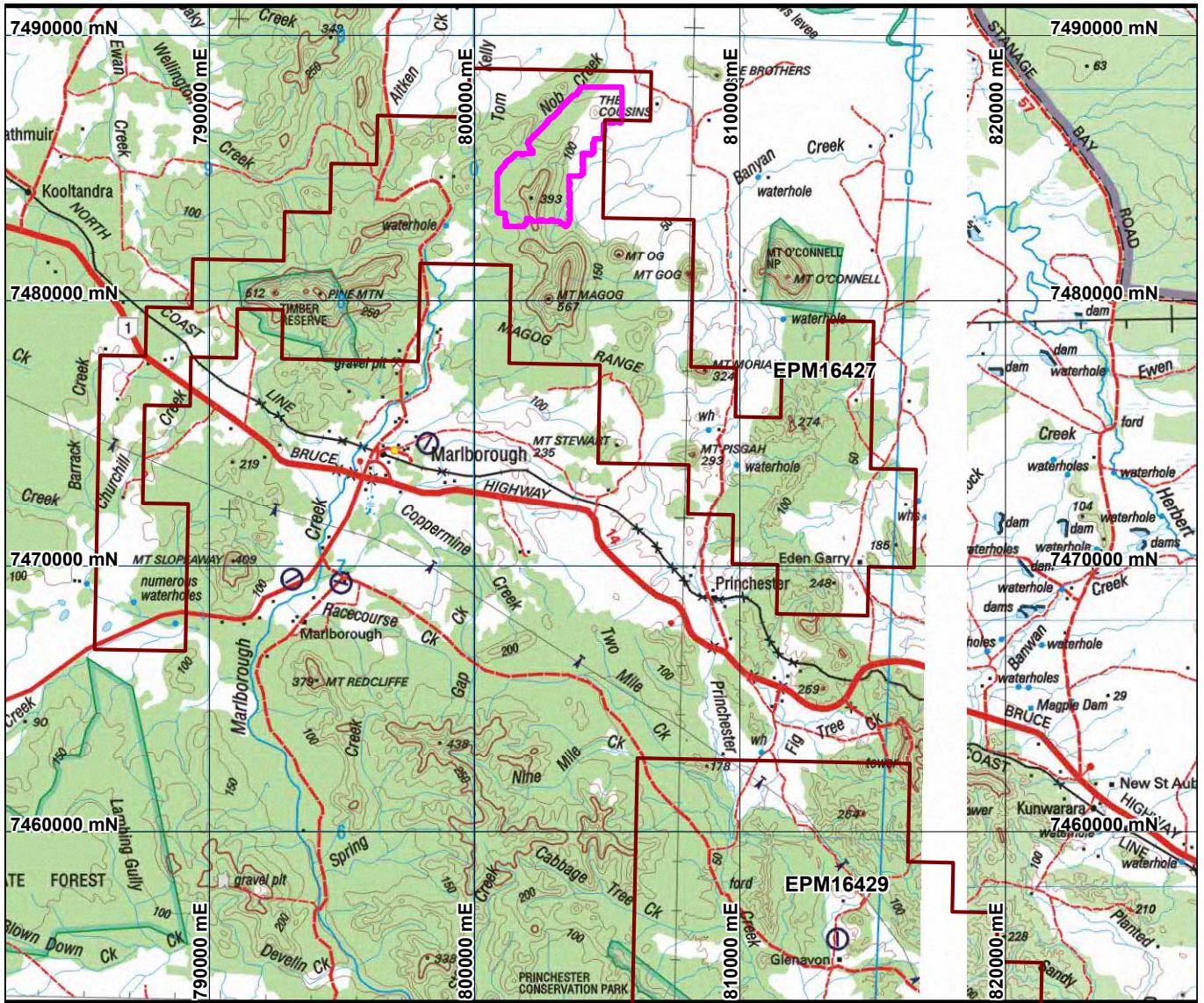
Purpose

Kenex Pty Ltd contracted Terra Search Pty Ltd to undertake a ground magnetic survey within tenement EPM 16427 in the Rockhampton district to provide detailed magnetic coverage over a proposed survey grid designated Nob Creek. This report contains the details of this survey and the data acquired.

Location

EPM 16427 was granted to Accord Mining Pty Ltd on 24/10/2007. The tenement is located 10km to the west, north and east surrounding the township of Marlborough, approximately 100km northwest of Rockhampton, Queensland. A location map is provided in Figure 1. Figure 2 shows the survey area in relation to satellite imagery. The survey area is covered by regions of thick vegetation engulfing steep drainage systems, either side of a prominent northeast trending ridge. These factors combined for fairly treacherous conditions for the field crew collecting the data.

Figure 3 shows the regional geology taken from the Central Eastern Queensland 1:1M scale geology dataset. The survey area and most of EPM 16427 is mapped as Permian volcanics of the Tasman Fold Belt System (Plv). To the west of the survey area are mapped Permian serpentinites of the New England Orogen (Plo). Figures 4 and 5 show the regional airborne magnetics and radiometrics taken from the Ayr - St Lawrence survey. The volcanic units show a generally low magnetic – moderate radiometric response, though this is variable over the region. In particular, there are linear bands of strong magnetic response. Within the Nob Ck survey area the radiometrics show linear features roughly parallel with main ridge and a low coincident with the hill in the north east. The Nob Ck survey area is a magnetic low valley bordered by a high magnetic ridge to the west and by a more massive moderate magnetic high region to the east.



- Nob Creek Survey Outline
- Accord Mining Tenement Boundaries

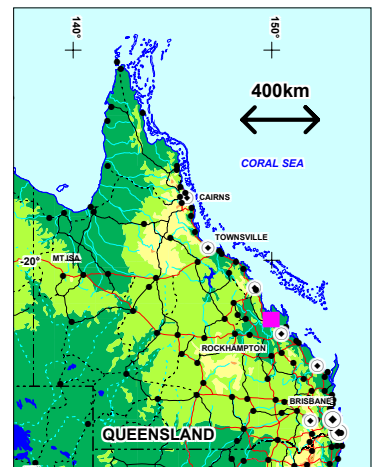
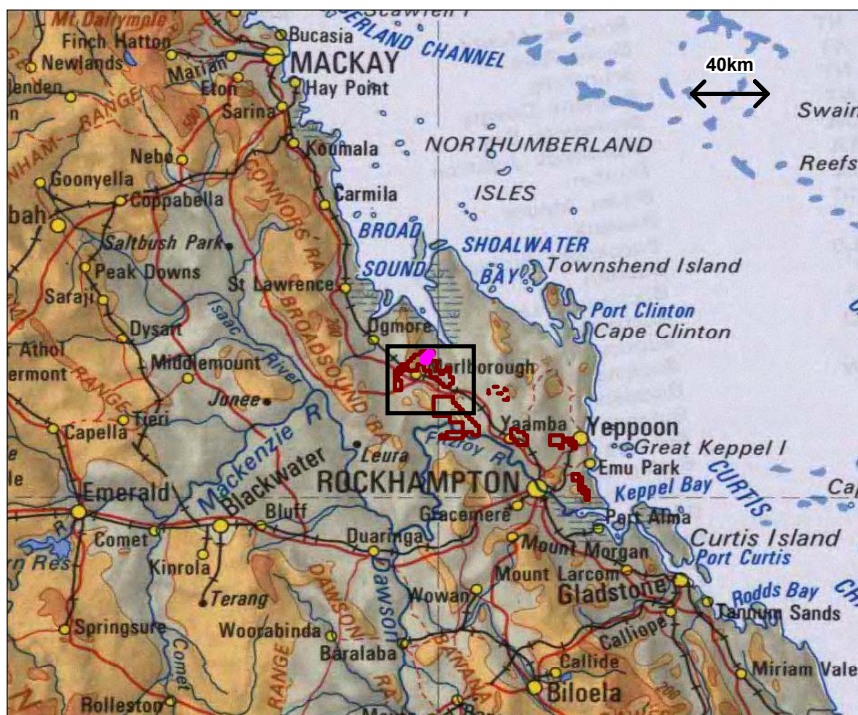
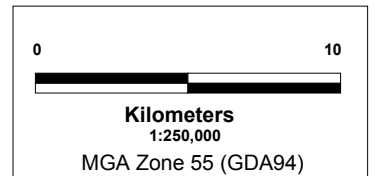
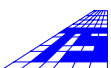


FIGURE 1
Nob Creek
Ground Magnetic Survey
May 2008
Location Plan



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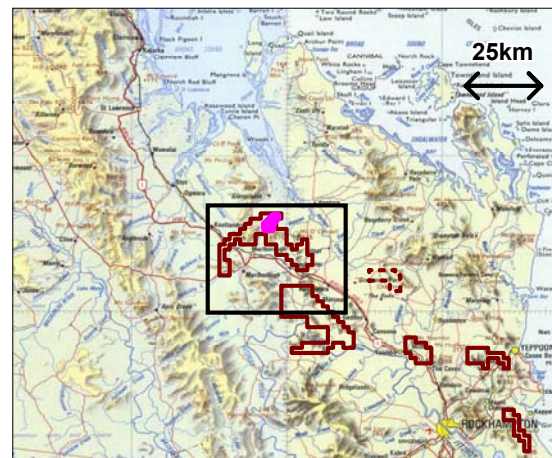
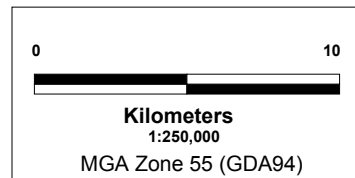
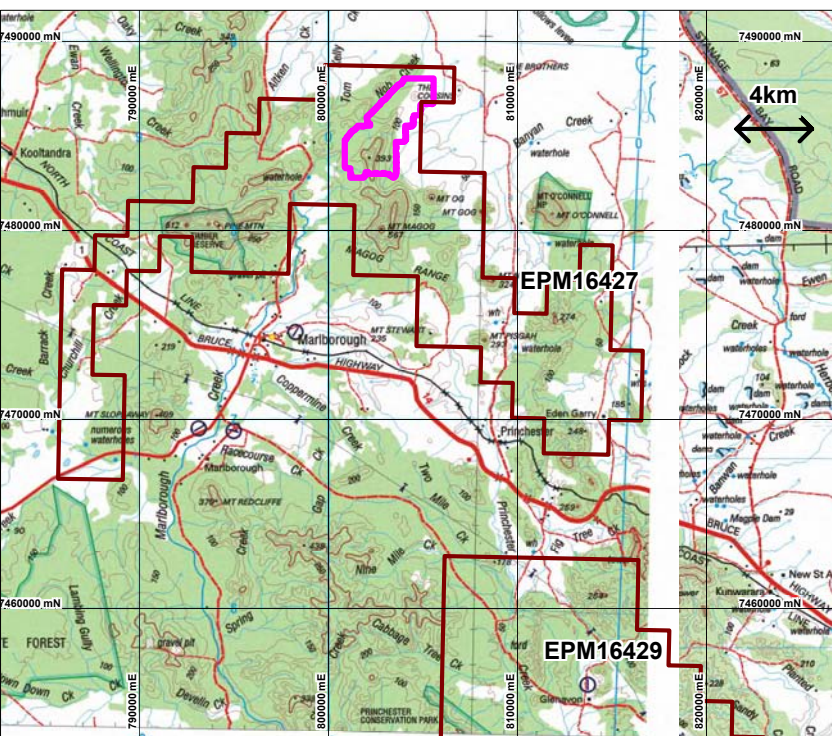
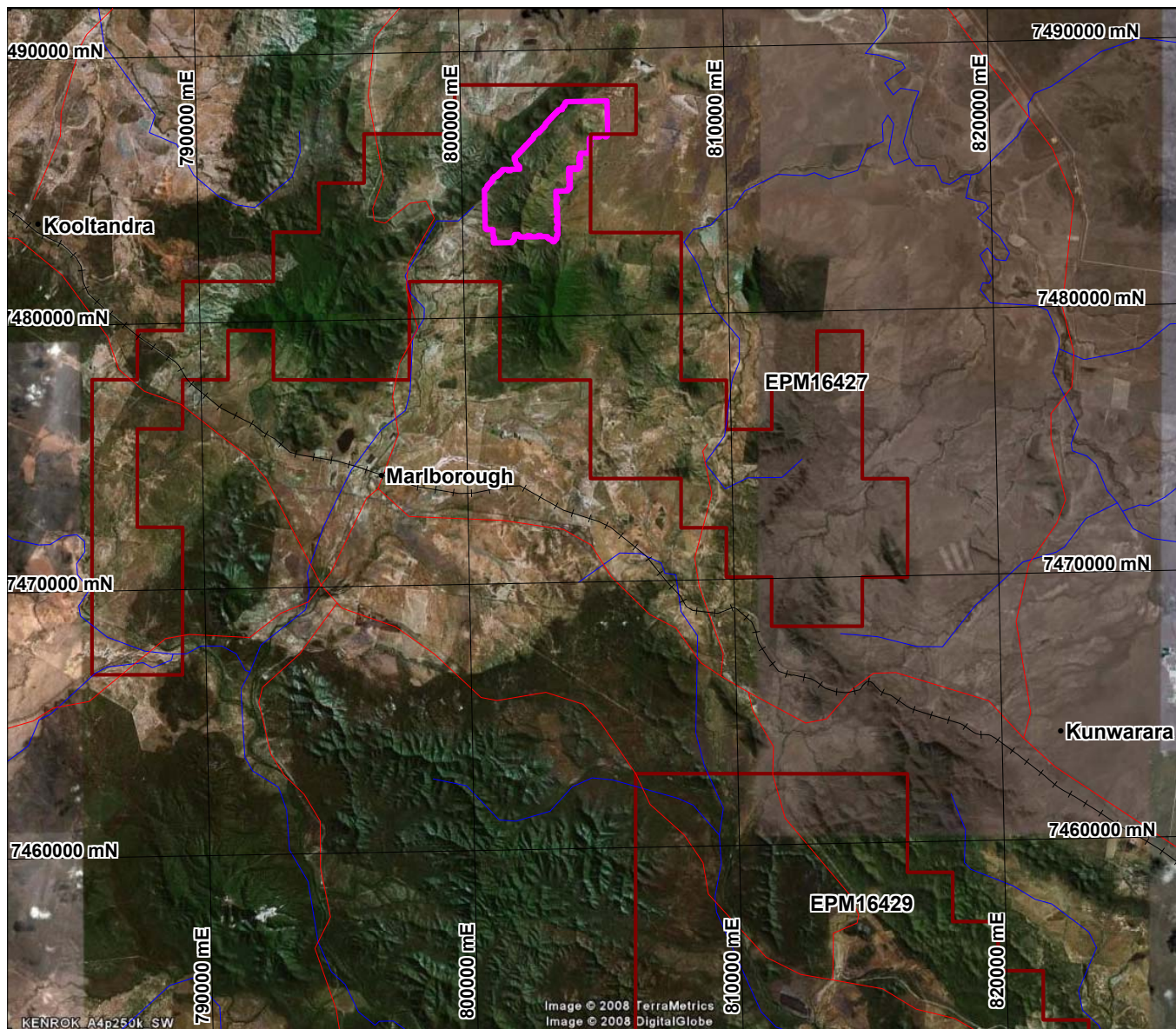
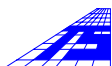
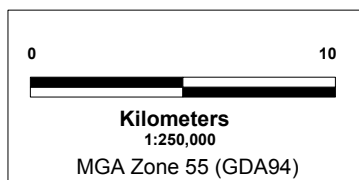
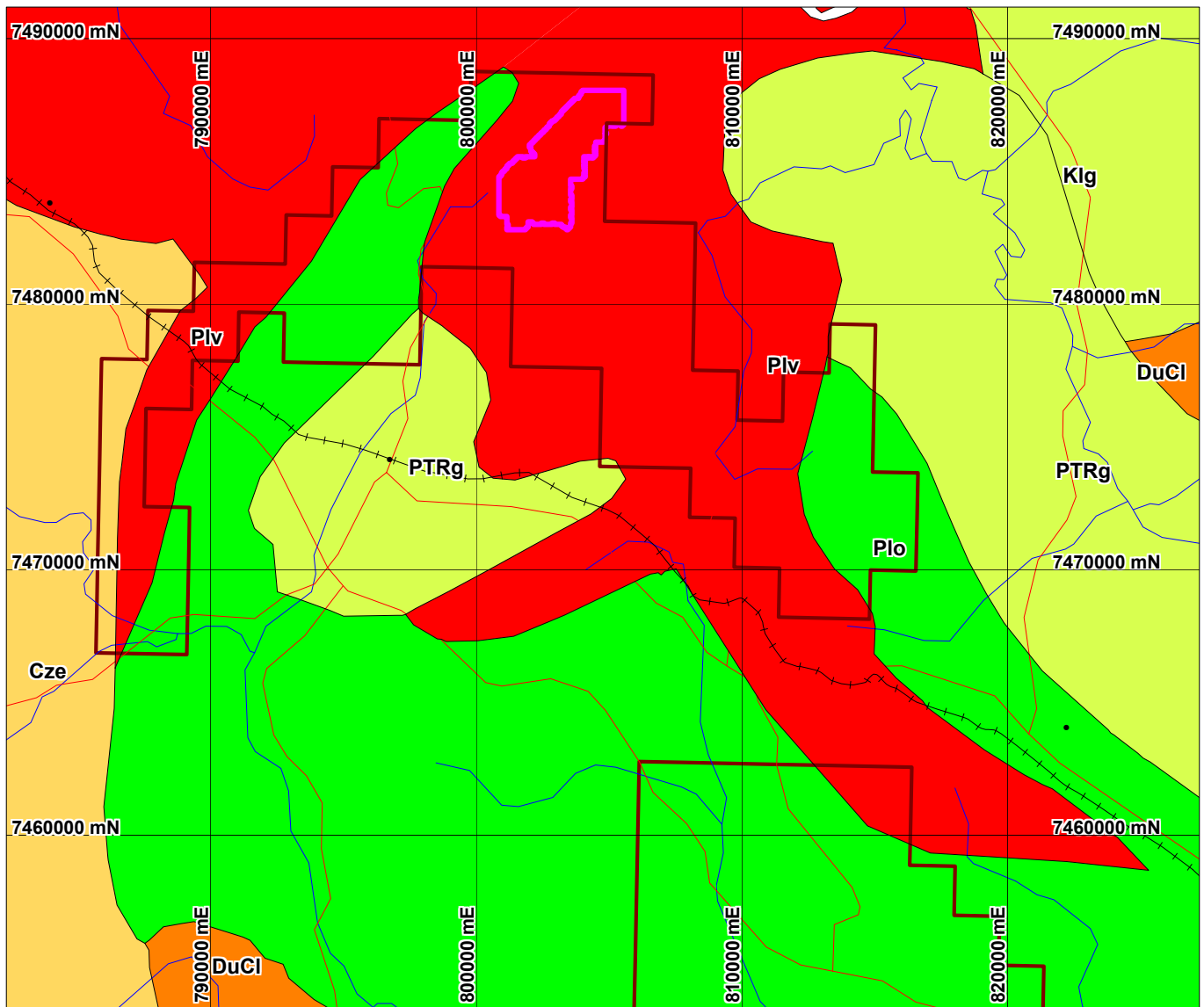


FIGURE 2
Nob Creek
Ground Magnetic Survey
May 2008
Satellite Imagery



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CAINOZOIC	Cze	sedimentary rocks
MESOZOIC	Klg	granites
PALAEOZOIC	PTRg	granites
PALAEOZOIC	Plo	serpentinites
PALAEOZOIC	Plv	felsic to mafic volcanics
PALAEOZOIC	DuCl	volcaniclastic sedimentary rocks

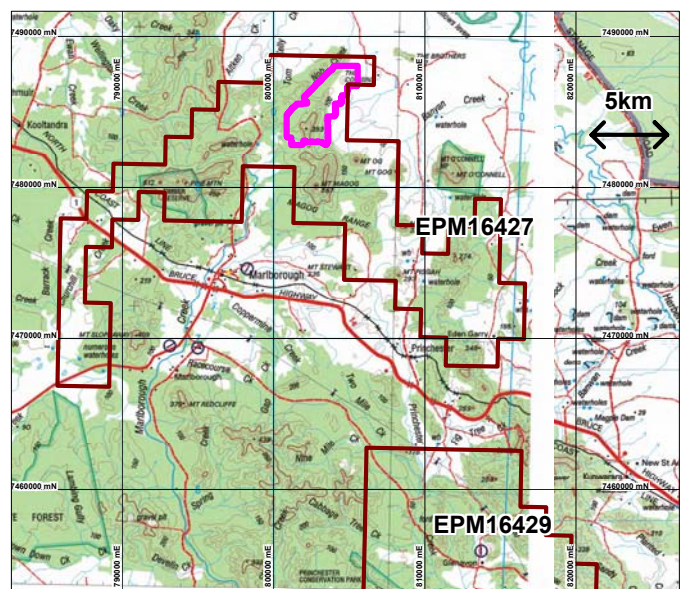
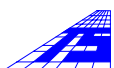
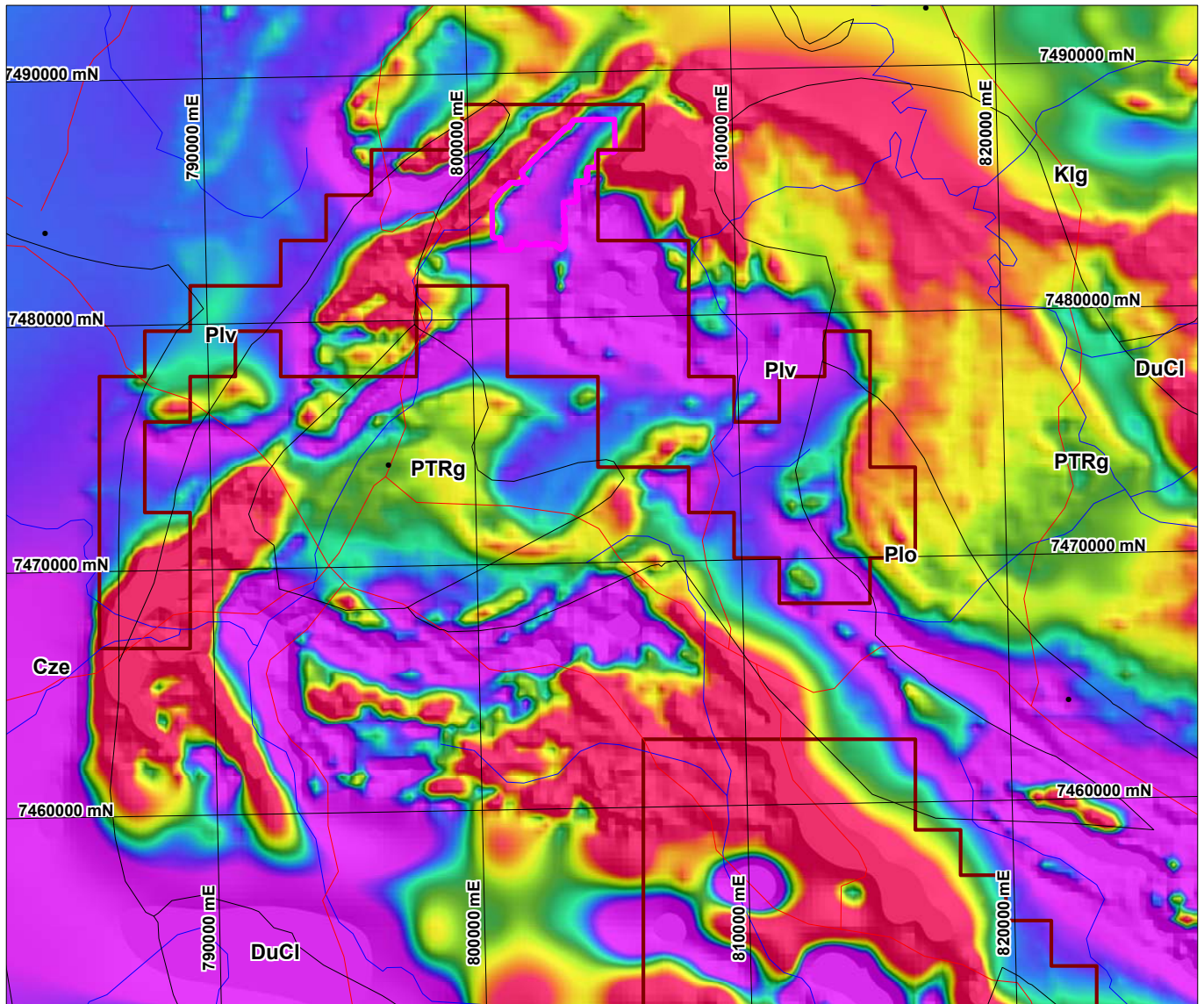


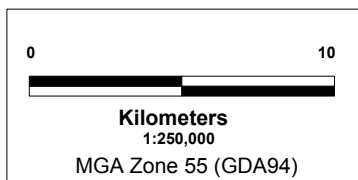
FIGURE 3
Nob Creek
Ground Magnetic Survey
May 2008
Regional Geology



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Airborne Magnetics - TMI



CAINOZOIC	Cze	sedimentary rocks
MESOZOIC	Klg	granites
PALAEOZOIC	PTRg	granites
PALAEOZOIC	Plo	serpentinites
PALAEOZOIC	Plv	felsic to mafic volcanics
PALAEOZOIC	DuCl	volcaniclastic sedimentary rocks

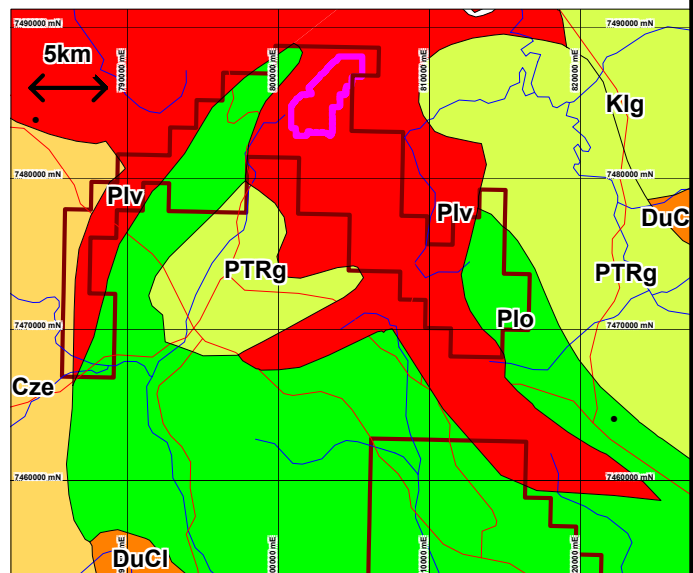
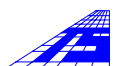
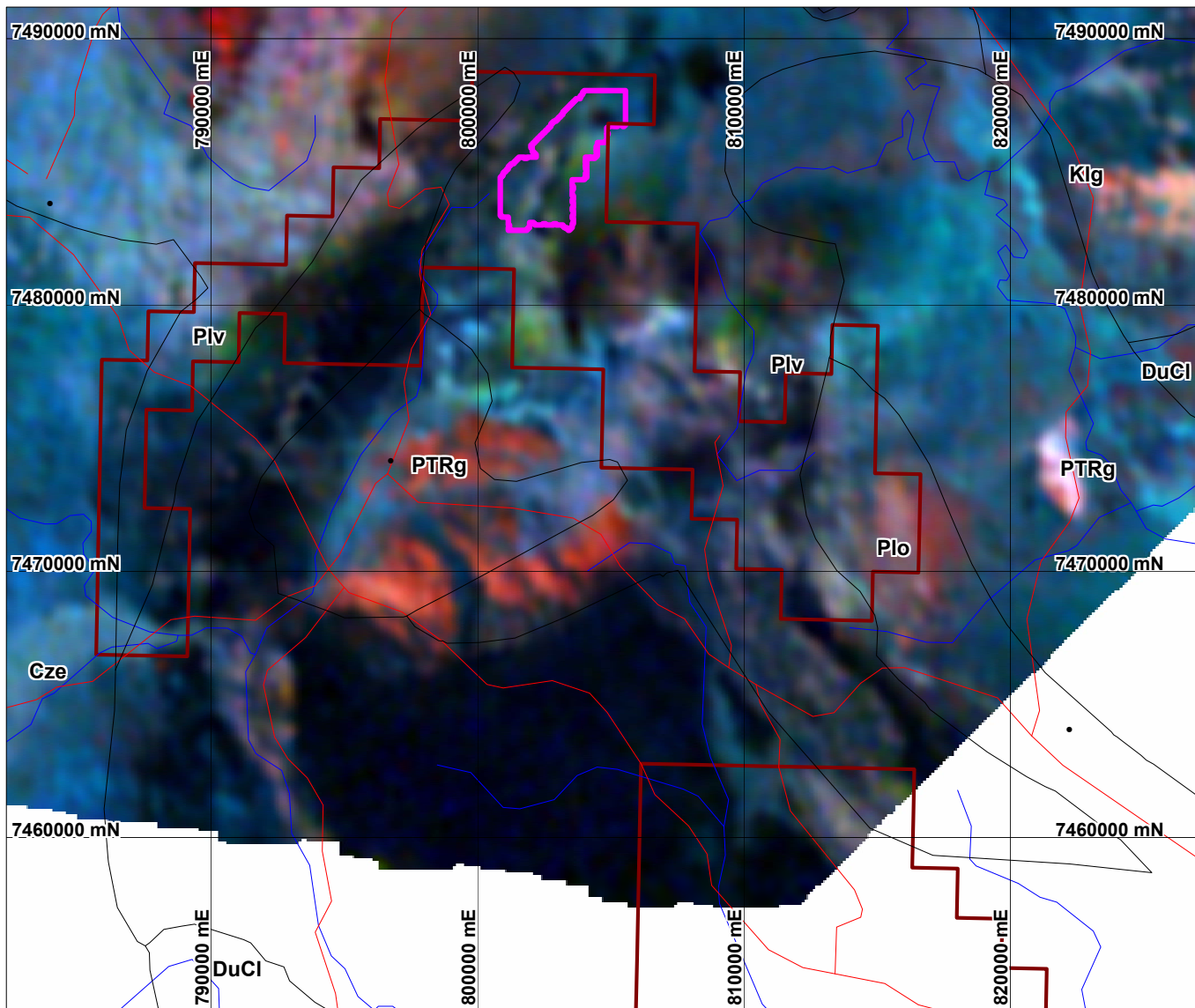


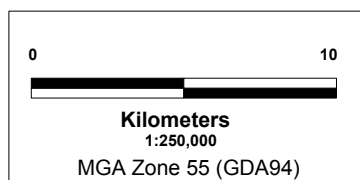
FIGURE 4
Nob Creek
Ground Magnetic Survey
May 2008
Airborne Magnetics



Terra Search Pty Ltd
 02/09/2008



Airborne Radiometrics - RGB (Red - K, Green - Th, Blue - U)



CAINOZOIC	Cze	sedimentary rocks
MESOZOIC	Klg	granites
PALAEOZOIC	PTRg	granites
PALAEOZOIC	Plo	serpentinites
PALAEOZOIC	Plv	felsic to mafic volcanics
PALAEOZOIC	DuCl	volcaniclastic sedimentary rocks

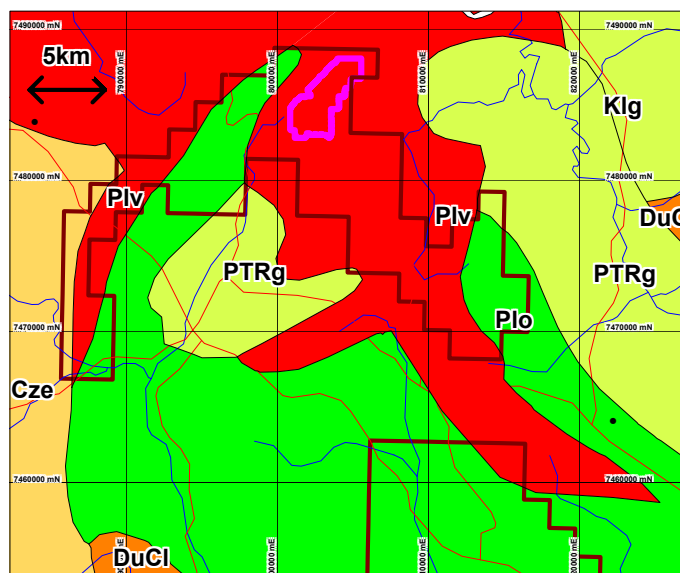
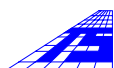


FIGURE 5
Nob Creek
Ground Magnetic Survey
May 2008
Airborne Radiometrics



Terra Search Pty Ltd
 02/09/2008

2. General Survey Details and Procedure

Field Collection

The ground magnetic survey was undertaken by Terra Search Field Assistants Josh Gander and Evelin Woelk using a GSM-19 Overhauser walking magnetometer. The GSM-19 has onboard GPS receiver and automatic data logging. A magnetic reading was recorded every 2 seconds for this survey. In the GEMSYS system all locations are collected as UTM coordinates in reference to the GDA94 datum, and in the case of this survey, in the MGA Zone 55 projection.

A magnetic base station was established using a Geoinstrument G856 Proton Precession magnetometer cycling every 30 seconds. This allows for the correction of the temporal variation of the Earth's magnetic field caused by variable effects related to such factors as fluctuating solar radiation. The Base Station was set up in a magnetically quiet area away from any obvious magnetic interference, e.g. building, power lines, roads, etc.

While undertaking the survey, surveyors were clean of any material that would cause any magnetic interference. The magnetometer was turned off when in range of fences. Surveying near obvious magnetic obstacles such as old metal drums etc., was avoided.

Processing

Josh Gander performed preliminary field processing of the survey data. Final processing, quality control and assurance, and presentation of the data were performed by Tim Beams in Terra Search's Townsville office. The raw field data was diurnally corrected and suspect data points were removed before gridding and imaging. Details of the processing are found in Appendix 1.

The levelled magnetic intensity and elevation data was gridded and imaged using Geosoft (Oasis Montaj) software. A reduction to pole filter was applied to the gridded Total Magnetic Intensity (TMI) data to produce a Reduced to Pole (RTP) grid. The Earth's magnetic field is inclined at increasingly low angles as move towards the equator. This has the effect of pushing the anomaly shown in the TMI away from the source. The RTP filter is an attempt to correct for this inclination and place the magnetic anomaly directly above its source. The declination (with respect to grid north) and dip of the prevailing magnetic field in the area are needed as parameters for the reduction to pole filter. These were obtained using the Geomagix program with the 2005 IGRF model and the appropriate survey date and elevation.

Since the survey was performed over magnetic geological units, the resulting data has quite a 'noisy' appearance. However, this is quite typical of ground magnetic surveys over strongly magnetic units, and the apparent 'noise' is often due to geological factors, such as variable distribution of magnetite, magnetic sands in drainages and surficial accumulations of magnetic material e.g. bushfire derived maghemite. In order to smooth out some of this effect and elucidate the underlying structures, an upward continuation (UC) filter was applied to the gridded data. This has the effect of attenuating the short-wavelength, near surface 'noise' and produces a magnetic image as if the survey was conducted at a higher elevation above the surface. A height of 1/5 of the line spacing was found to remove much of the surface noise without significantly degrading the resolution of the survey.

In addition both a first vertical derivative (1VD) of the UC-RTP data and an analytic signal (AS) filter of the UC-TMI were also applied to the gridded data. The 1VD filter is effective at removing regional gradients and enhancing shallow, near-surface features. It can also enhance resolution of the edges of magnetic features. Since it amplifies the short-wavelength component of the data, it also has the tendency to look 'noisy'. Small incoherent features should therefore be discounted. However, the textures created can often be useful in distinguishing different rock types. The analytic signal filter produces maxima over magnetic contacts regardless of the direction of the magnetization, making it particularly useful in regions of strong remanent magnetism. It can be thought of as a map of magnetization in the ground. However, since the analytic signal marks only a magnetic contrast, the sense of this contrast can be determined only from the original magnetic image.

The Geosoft grids were exported as MapInfo registered raster (.tif) files. The Geosoft grids were also converted to ERMapper format to provide an alternative format for further presentation.

3. Survey Details

The Nob Creek ground magnetic data was collected from the 12th – 21st May 2008 (AEST). The survey consisted of 100m spaced, east-west survey lines. While walking, line guidance was provided by the in-built GPS system of the walking magnetometer. The final survey grid had 53 survey lines 1300m – 3000m in length, for a total of 122.5line-km over an area of 12.87km².

Figure 6 shows the location of the reading stations in relation to the proposed survey lines, and also observations made by the field crew while collecting data. The fence lines have been interpreted from the satellite imagery and field observations. The data was collected starting from the northern most lines. Data collection proceeded relatively incident-free till the 14/05/2008, when one of the magnetic operators slid down a steep gully around 802150mE, 7485775mN. Following this incident, it was decided to avoid regions which could result in personal injury to the operators. The western sides (to roughly 803000mE) of survey lines 7485525mN and 7485625mN (including sections of 7485725mN) were excluded due to these treacherous conditions. Southwards from 7485025mN the survey lines were collected in two segments. The eastern segments, from the eastern end of the line to the central ridge were collected first. On the western segments, steep terrain and thick vegetation generally prevented reaching the central ridge, and along each line data collection was curtailed once conditions became too dangerous. The survey lines south of 7483000mN were almost completely abandoned due to thick vegetation and steep terrain.

Figure 7 shows the geology from the Marlborough (8258) 1:100k sheet geology. The lithological units are summarized in the table below:

SYMBOL	AGE	DOMINANT TYPE	UNIT NAME	LITHOLOGY SUMMARY
Qf	QUATERNARY	ALLUVIUM	Qf-YARROL/SCAG	Sand, gravel, clay: floodout sheets and small fans
Qr,Qf	QUATERNARY	COLLUVIUM	Qr-QLD,Qf-YARROL/SCAG	Clay, silt, sand, gravel and soil: colluvial, residual and floodout deposits
Qa	QUATERNARY	ALLUVIUM	Qa-QLD	Clay, silt, sand, gravel; floodplain alluvium
Pgai	LATE PERMIAN	GABBROID	Aitken Creek Gabbro	Medium to coarse-grained biotite-hornblende-pyroxene gabbro
Pgog	LATE PERMIAN	GRANITOID	Og Syenite	Coarse-grained biotite syenite
Pgmg	LATE PERMIAN	GABBROID	Magog Gabbro	Coarse to very coarse-grained hornblende gabbro with minor hornblende monzonite
Pg/b	LATE PERMIAN	GRANITOID	Pg/b-YARROL/SCAG	Gabbro, diorite
Pvr/v	EARLY PERMIAN	MAFITES (LAVAS, CLASTICS & HIGH-LEVEL INTRUSIVES)	Rookwood Volcanics/v	Basaltic pillow lava and breccia, minor chert, sandstone, siltstone; some dolerite sills or dykes
PLPzsp	NEOPROTEROZOIC - EARLY PALAEOZOIC	ULTRAMAFIC ROCK	Princhester Serpentinite	Sheared serpentinite, serpentinised harzburgite and minor dunite; minor lherzolite, pyroxenite, altered gabbro and dolerite, chromitite
Pzm/n	NEOPROTEROZOIC - EARLY PALAEOZOIC	MAFITES (LAVAS, CLASTICS & HIGH-LEVEL INTRUSIVES)	Nob Creek Amphibolite	Fine to medium-grained schistose amphibolite interbedded with minor quartz-mica-feldspar schist; minor stratiform massive sulphide
Pzm/m	NEOPROTEROZOIC - EARLY PALAEOZOIC	METAMORPHOSED SEDIMENTARY ROCK	Marlborough Metamorphics	Muscovite-biotite gneiss and schist, cordierite-andalusite schist, micaceous quartzite, chlorite schist, phyllite, muscovite-biotite orthogneiss (mylonitised granite); minor marble and diopside-labradorite hornfels and amphibolite

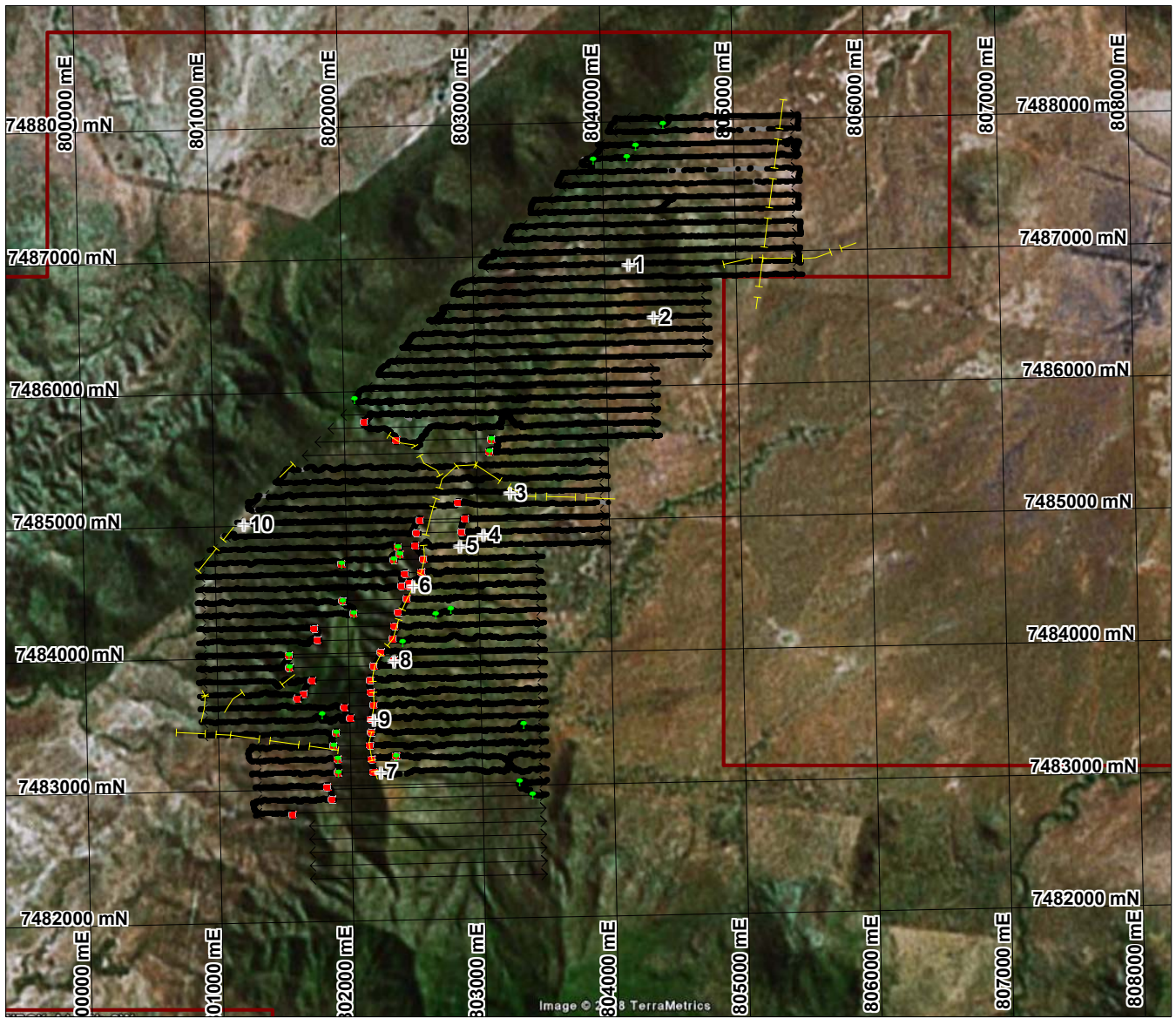
Figure 8 shows the digital elevation model (DEM) derived from the onboard GPS of the magnetometer. Figure 9 shows the image of the gridded total magnetic intensity (TMI). Figure 10 shows the upward continuation of the TMI data to a height of 20m (UC20). Figure 11 shows the analytic signal of the UC20 data (UC20 – AS). Figure 12 shows the reduced to pole magnetic intensity, upward continued to a height of 20m (UC10 - RTP). Figure 13 shows the first vertical derivative of the UC10 – RTP data (UC10 – RTP – 1VD). Figure 14 shows a comparison between the ground magnetic UC10 data and the TMI image of the regional aeromagnetic data.

The ground magnetic survey is mainly over the Neoproterozoic Marlborough Metamorphics (Pzm/m) and Nob Creek Amphibolite (Pzm/n). The western edge encroaches on the Early Palaeozoic Princhester Serpentinite. The northern and eastern areas of the survey are under Quaternary cover. General features of the magnetic images are summarized below and illustrated in Figure 15:

- The survey area over the Neoproterozoic units is of predominantly low magnetic response with narrow linear bands of weakly to strongly magnetic material. The strong to moderate linears mainly occur within or around the margin of the Nob Creek Amphibolite, generally trend northeast, probably reflecting higher stratiform magnetite concentration. There are a number of southeast trending, weakly magnetic linears, probably representing dykes cutting across the bedding of the Marlborough Metamorphics.
- A number of northeast trending strong magnetic linears are found in the southeast region of the survey. These suggest possible extension of the Nob Creek Amphibolite beneath the Quaternary cover.
- The western region of the survey over the Princhester Serpentinite shows a very high magnetic response.

Location specifications and reduction to pole parameters for the survey are:

- | | | | |
|---|--|--------------------|-------------|
| • Coordinate System: Field Collection: | | Datum: | GDA94 |
| | | Projection: | MGA Zone 55 |
| • Coordinate System: Imaging & Presentation: | | Datum: | GDA94 |
| | | Projection: | MGA Zone 55 |
| • Base Station: | 798700mE / 7484175mN | | |
| • Grid: | 7482825mN – 7488025mN
800877mE – 805477mE | | |
| • Declination: | 10.33802° (MGA Z55 North) | | |
| • Dip: | -52.4212° | | |



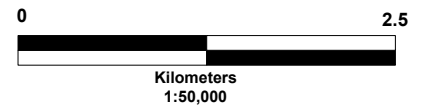
Field Observations

- + ID Culture
- Fence
- Dense vegetation
- Impassable - too dangerous/too steep

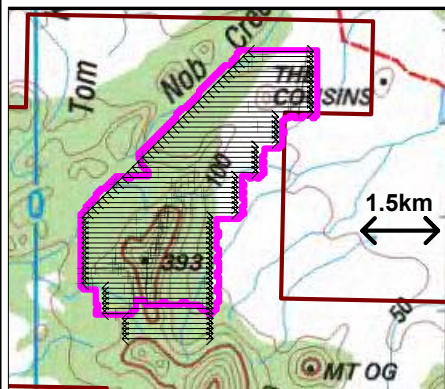
Reading Stations

- Final Reading Station
- Bad Reading Station
- Proposed Survey Line

ID	Description
1	dead fridge
2	rusted drum
3	wire
4	drill pad
5	drill pad
6	possible drill pad
7	picket
8	drill hole, too steep
9	picket
10	windmill, track

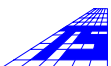


MGA Zone 55 (GDA94)

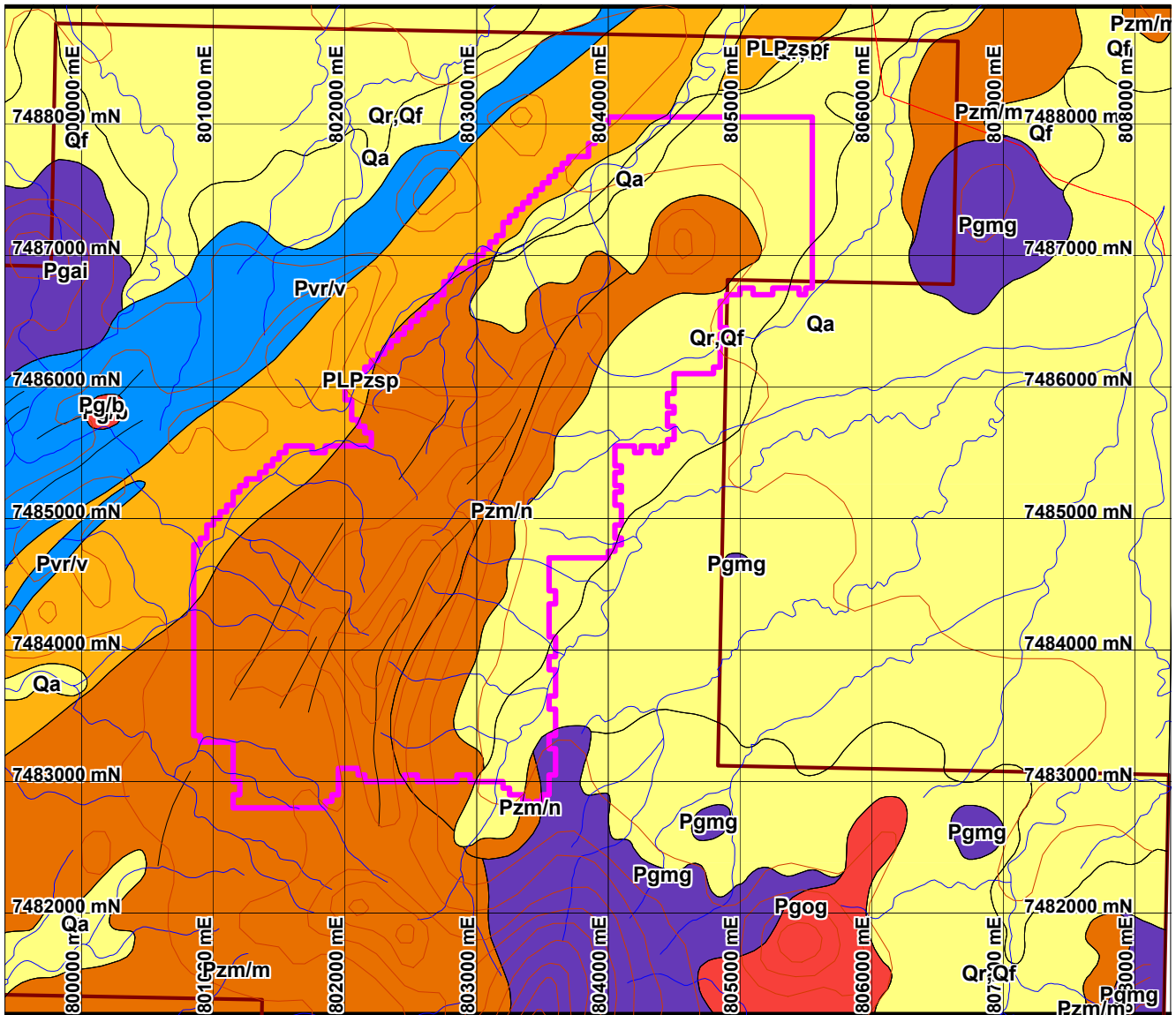


Field Observations

FIGURE 6
Nob Creek
Ground Magnetic Survey
May 2008
Reading Stations



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MGA Zone 55 (GDA94)

QUATERNARY	Qa	Qa-QLD
QUATERNARY	Qf	Qf-YARROL/SCAG
QUATERNARY	Qr, Qf	Qr-QLD, Qf-YARROL/SCAG
LATE PERMIAN	Pg/b	Pg/b-YARROL/SCAG
LATE PERMIAN	Pgai	Aitken Creek Gabbro
LATE PERMIAN	Pgog	Og Syenite
LATE PERMIAN	PgmG	Magog Gabbro
EARLY PERMIAN	Pvr/v	Rookwood Volcanics/v
NEOPROTEROZOIC - EARLY PALAEOZOIC	Pzm/n	Marlborough Metamorphics
NEOPROTEROZOIC - EARLY PALAEOZOIC	PLPzsp	Princhester Serpentinite
NEOPROTEROZOIC - EARLY PALAEOZOIC	Pzm/n	Nob Creek Amphibolite

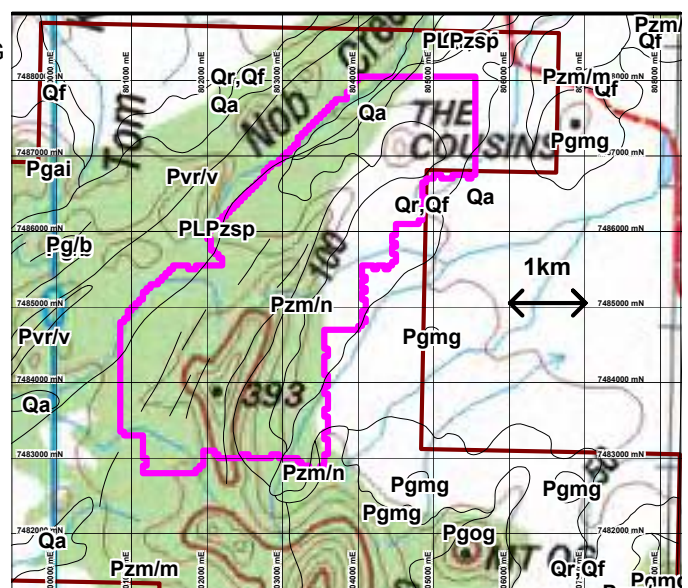
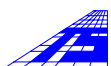
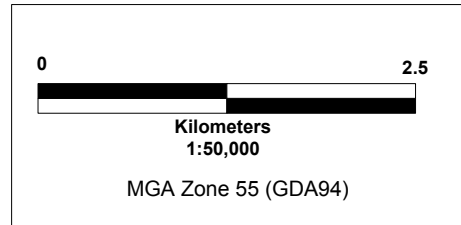
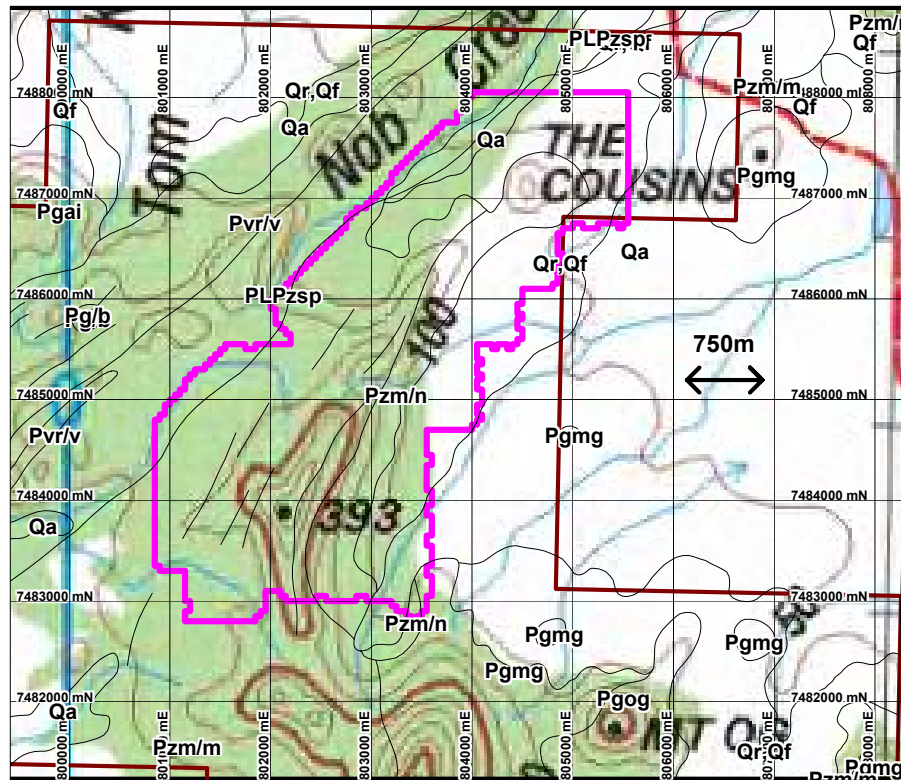
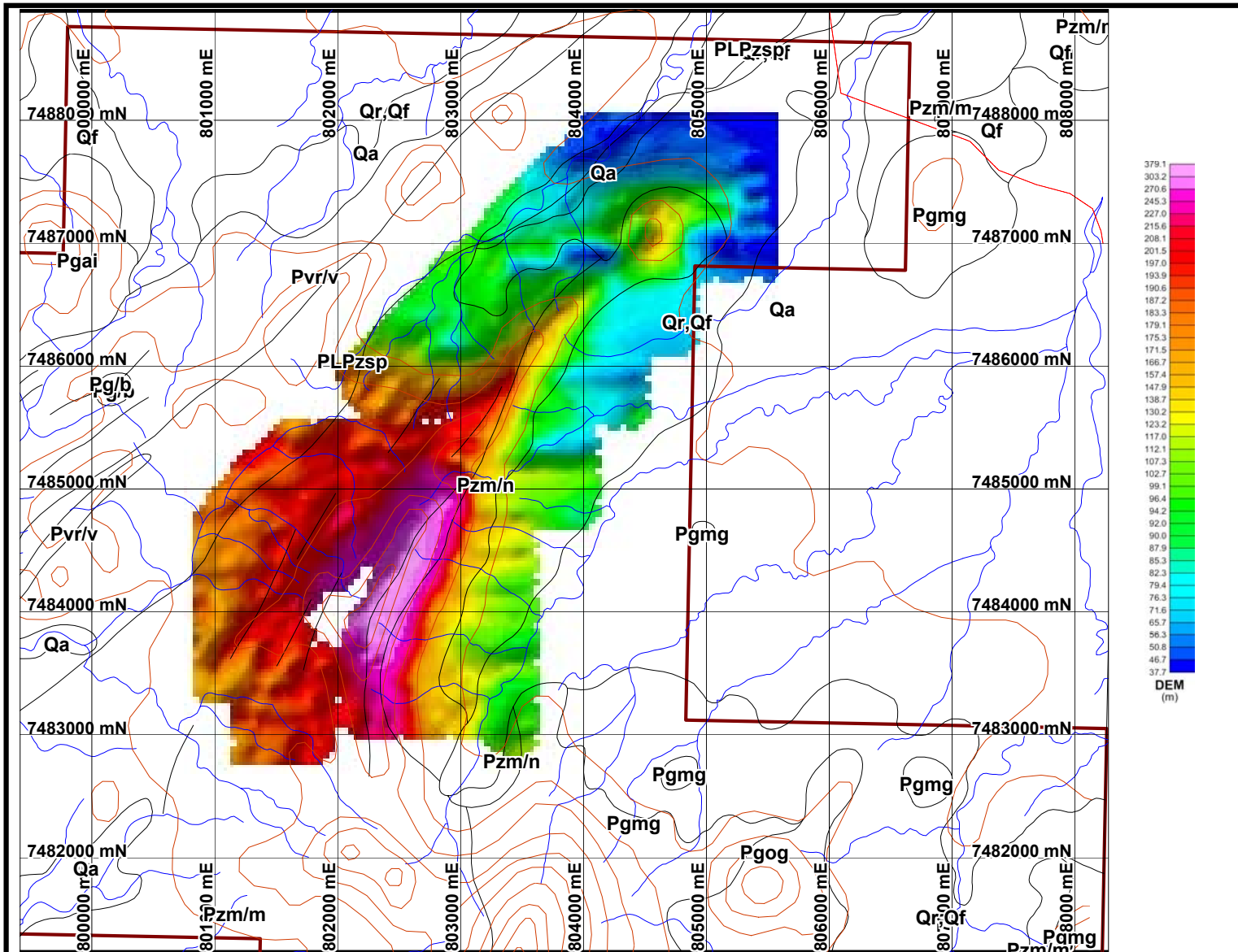


FIGURE 7
Nob Creek
Ground Magnetic Survey
May 2008
Geology

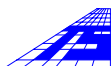


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QUATERNARY	Qa	Qa-QLD
QUATERNARY	Qr	Qr-YARROL/SCAG
QUATERNARY	Qr,Qf	Qr-QLD,Qf-YARROL/SCAG
LATE PERMIAN	Pgb	Pgb-YARROL/SCAG
LATE PERMIAN	Pgai	Aitken Creek Gabbro
LATE PERMIAN	Pgog	Og Syenite
LATE PERMIAN	Pvgmg	Magog Gabbro
EARLY PERMIAN	Pvr/v	Rookwood Volcanics/v
NEOPROTEROZOIC - EARLY PALAEOZOIC	Pzmn	Marlborough Metamorphics
NEOPROTEROZOIC - EARLY PALAEOZOIC	PLPzsp	Princhester Serpentinite
NEOPROTEROZOIC - EARLY PALAEOZOIC	Pzmn	Nob Creek Amphibolite

FIGURE 8
Nob Creek
Ground Magnetic Survey
May 2008
DEM



Terra Search Pty Ltd
 12/08/2008

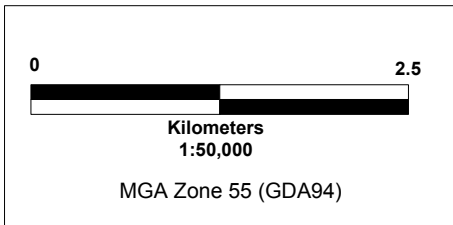
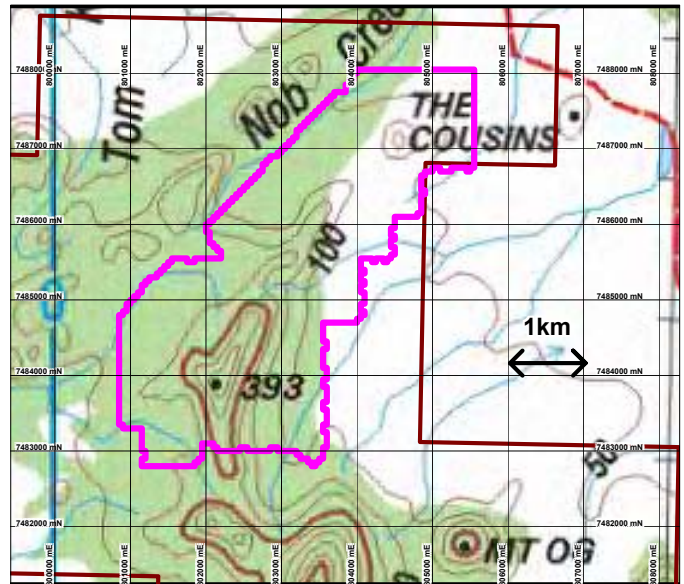
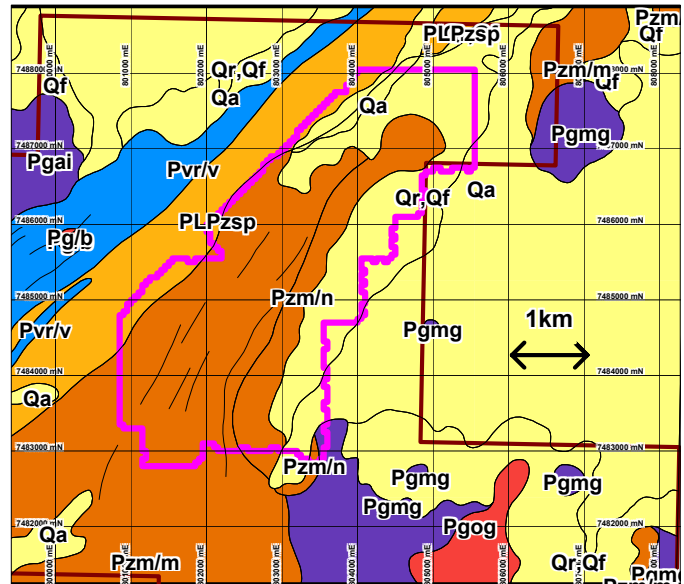
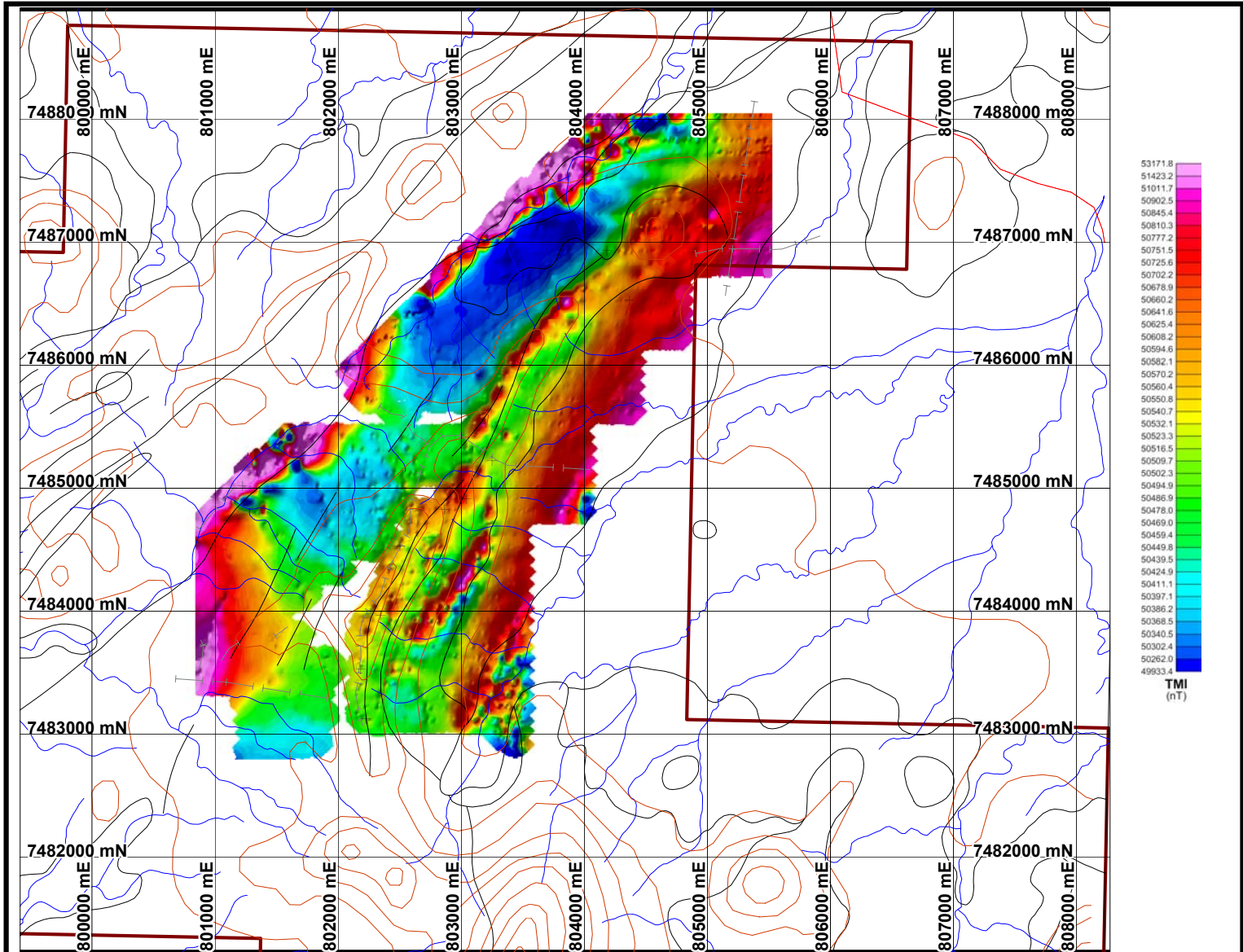


FIGURE 9
Nob Creek
Ground Magnetic Survey
May 2008
TMI

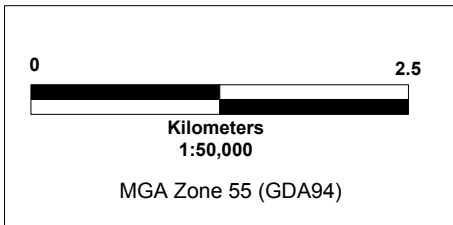
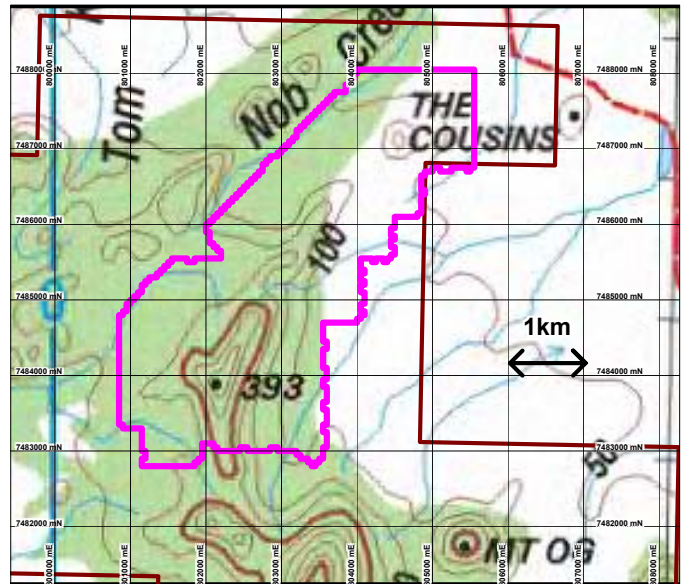
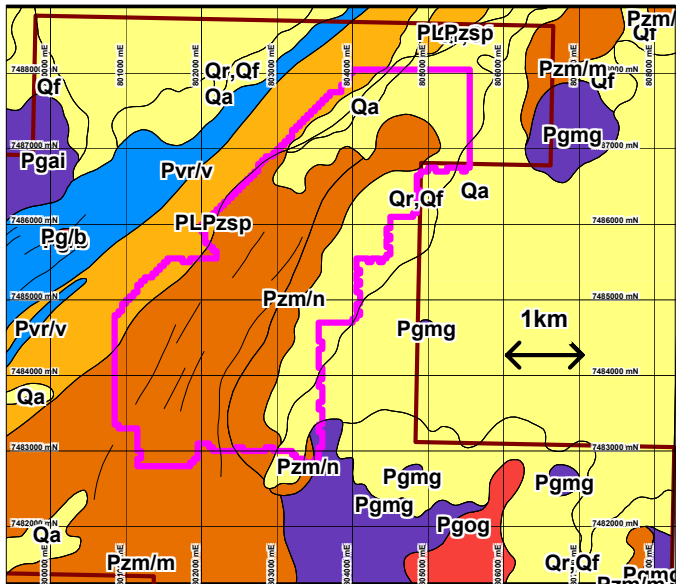
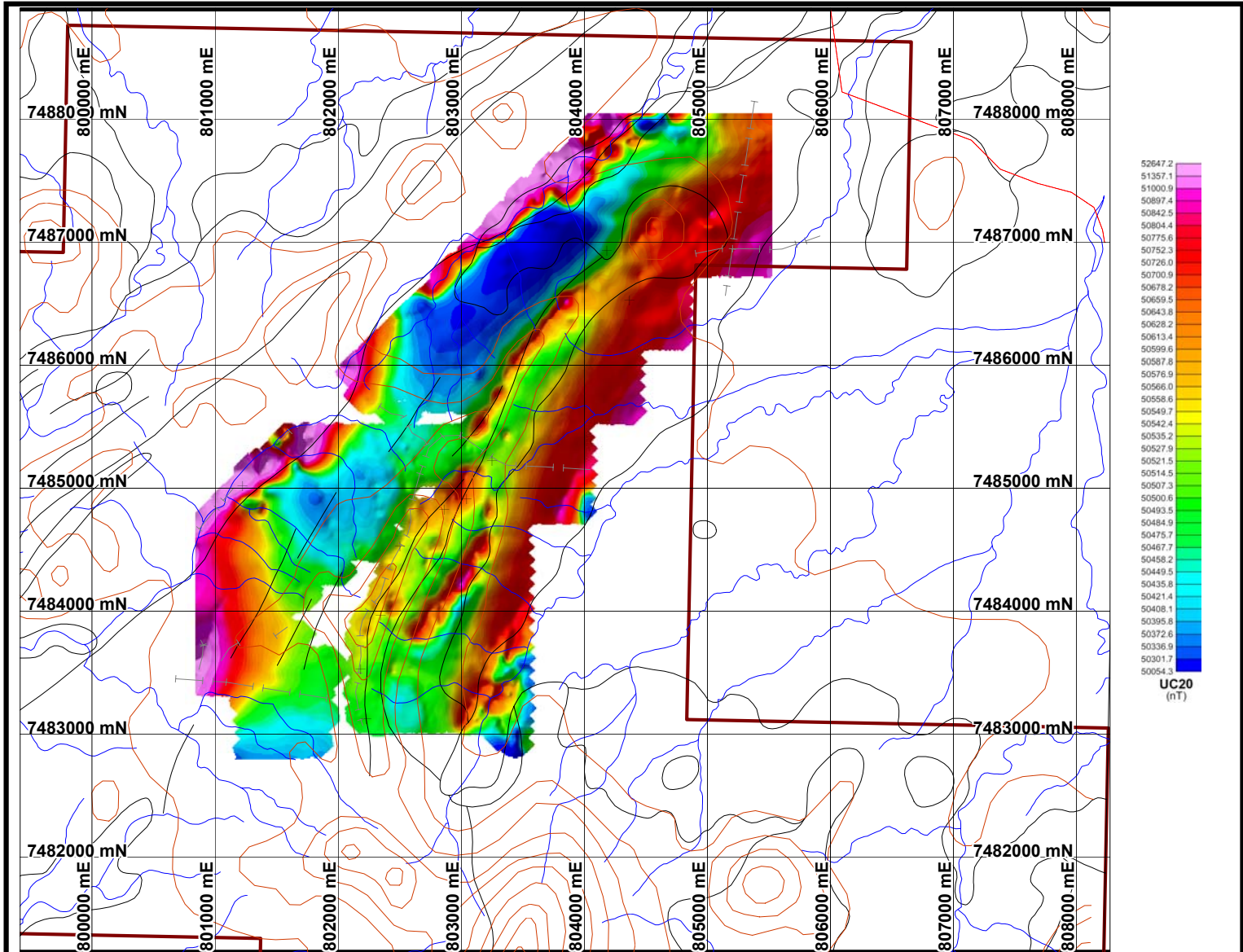


FIGURE 10
Nob Creek
Ground Magnetic Survey
May 2008
TMI

Upward Continuation: 20m

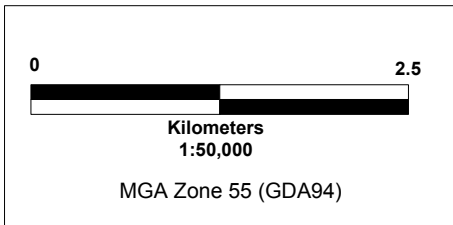
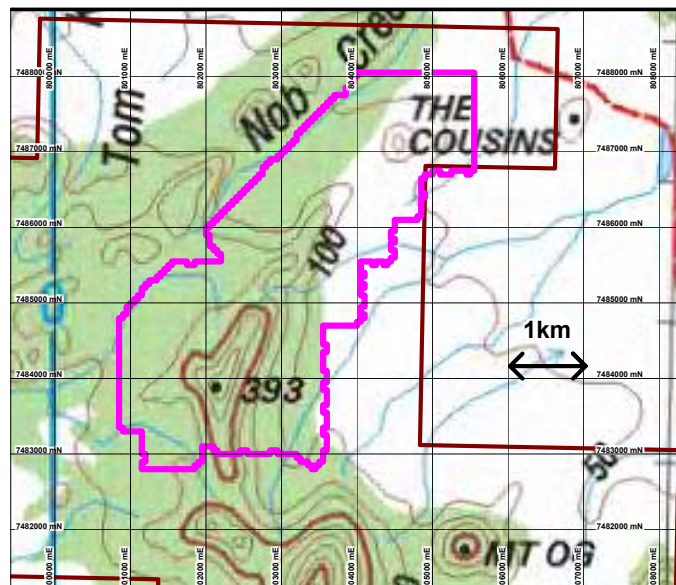
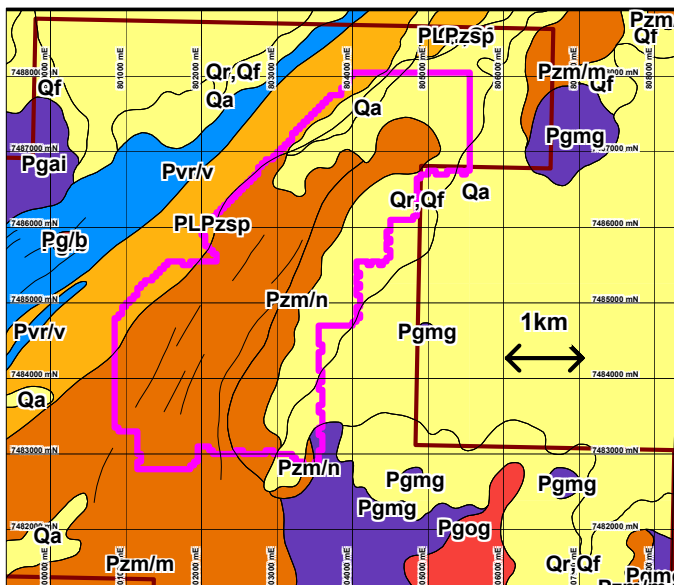
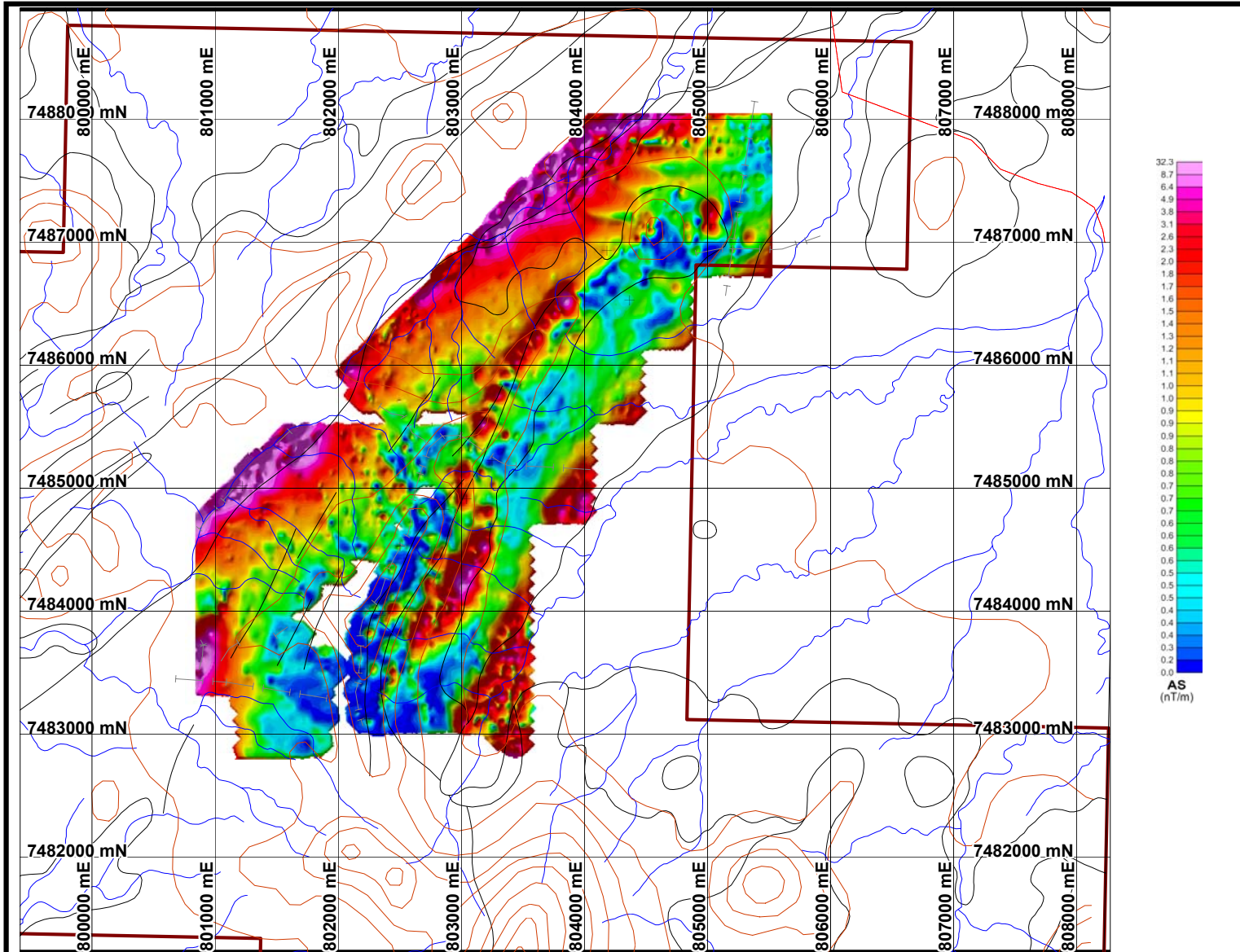


FIGURE 11
Nob Creek
Ground Magnetic Survey
May 2008
Analytic Signal
 Upward Continuation: 20m

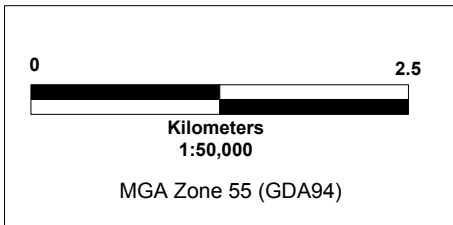
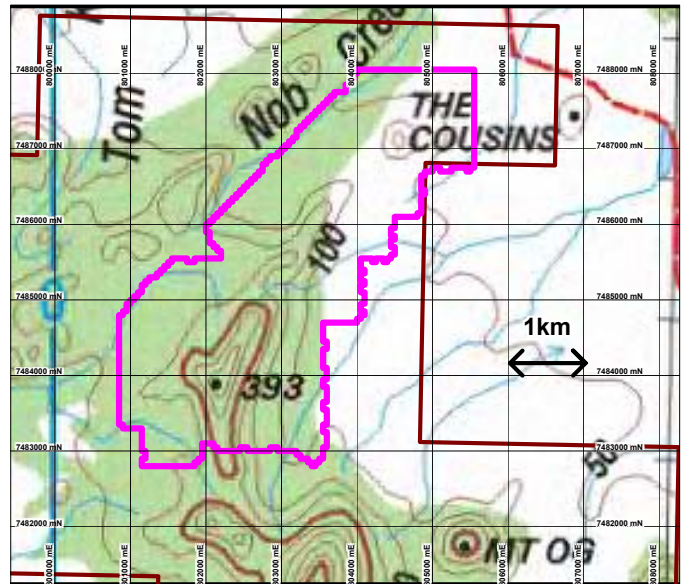
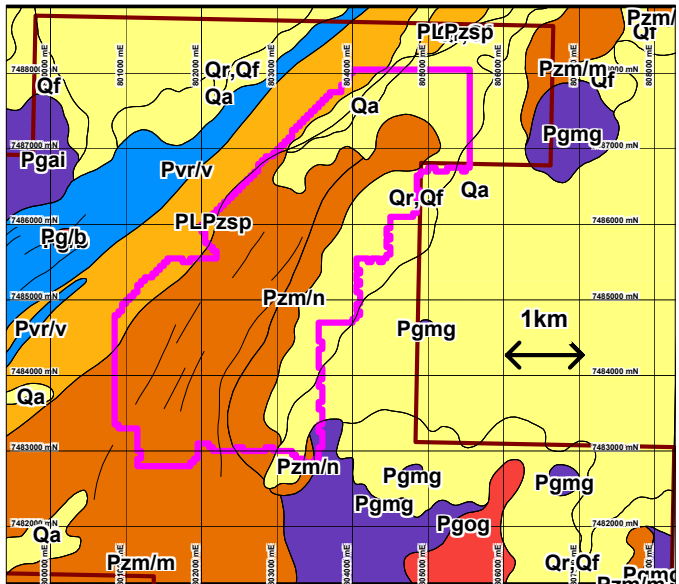
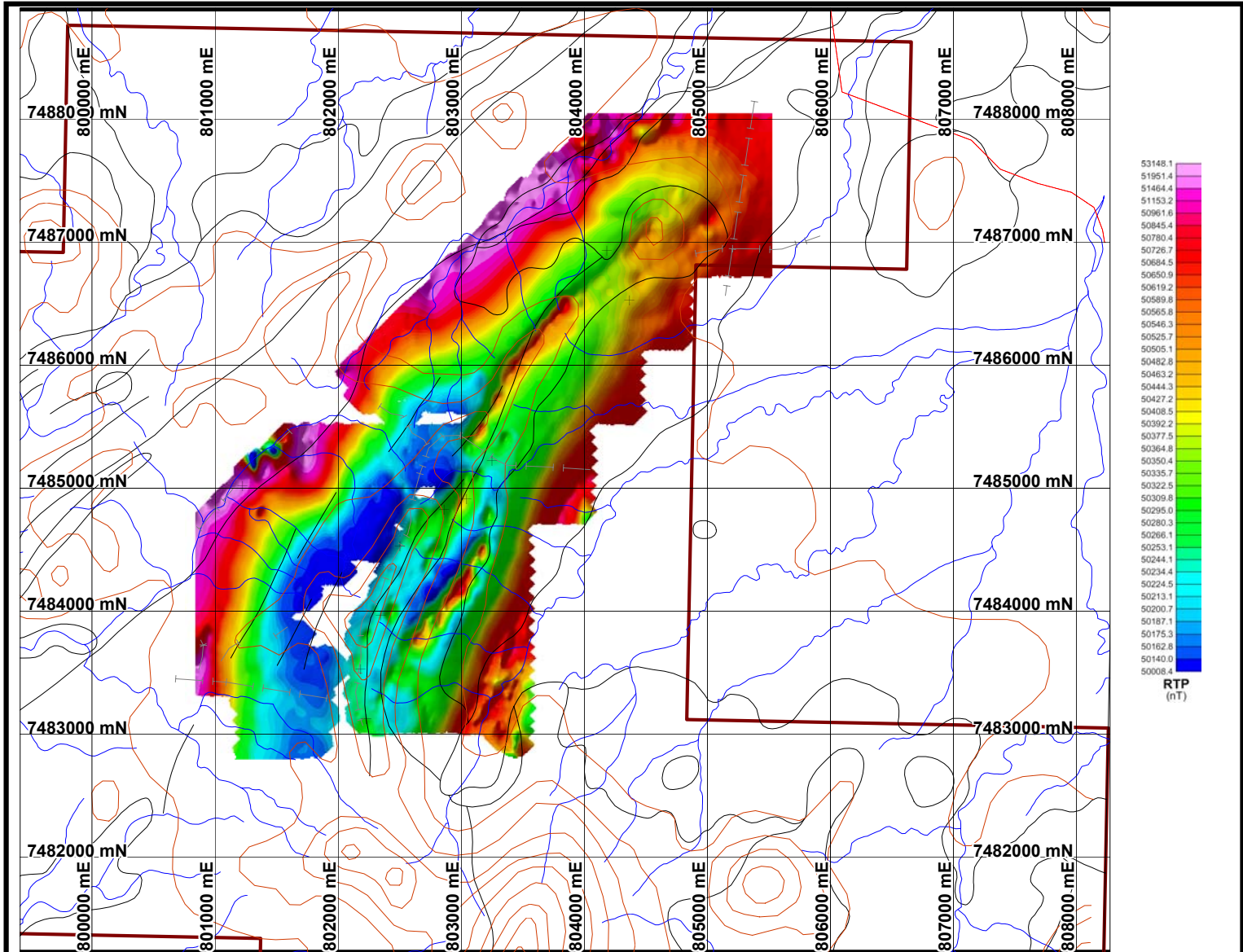


FIGURE 12
Nob Creek
Ground Magnetic Survey
May 2008
RTP

Upward Continuation: 20m

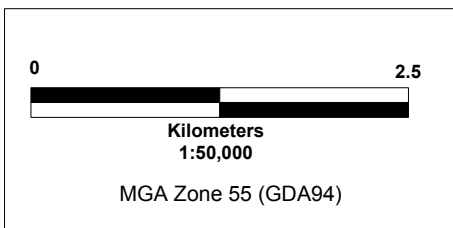
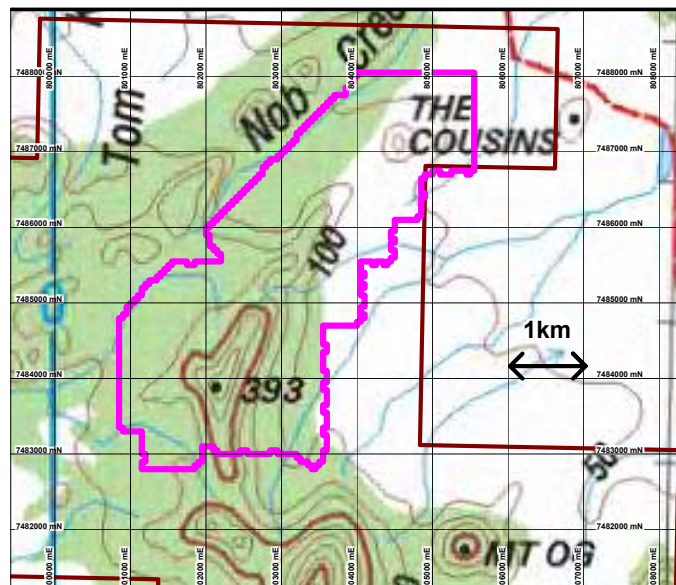
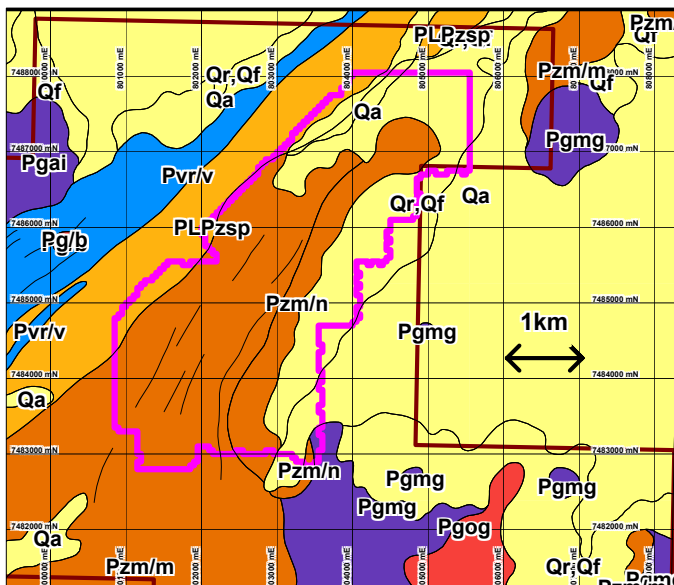
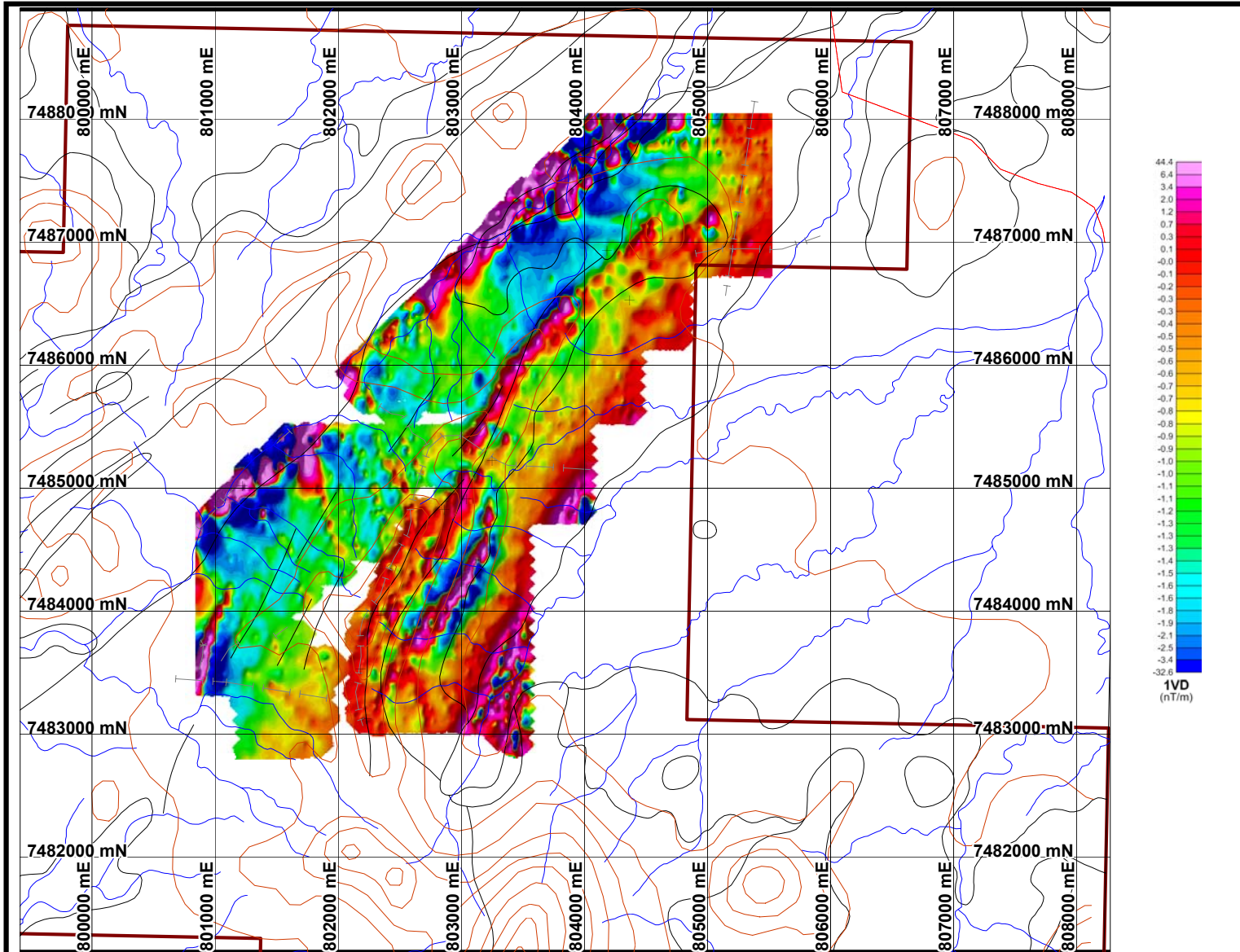
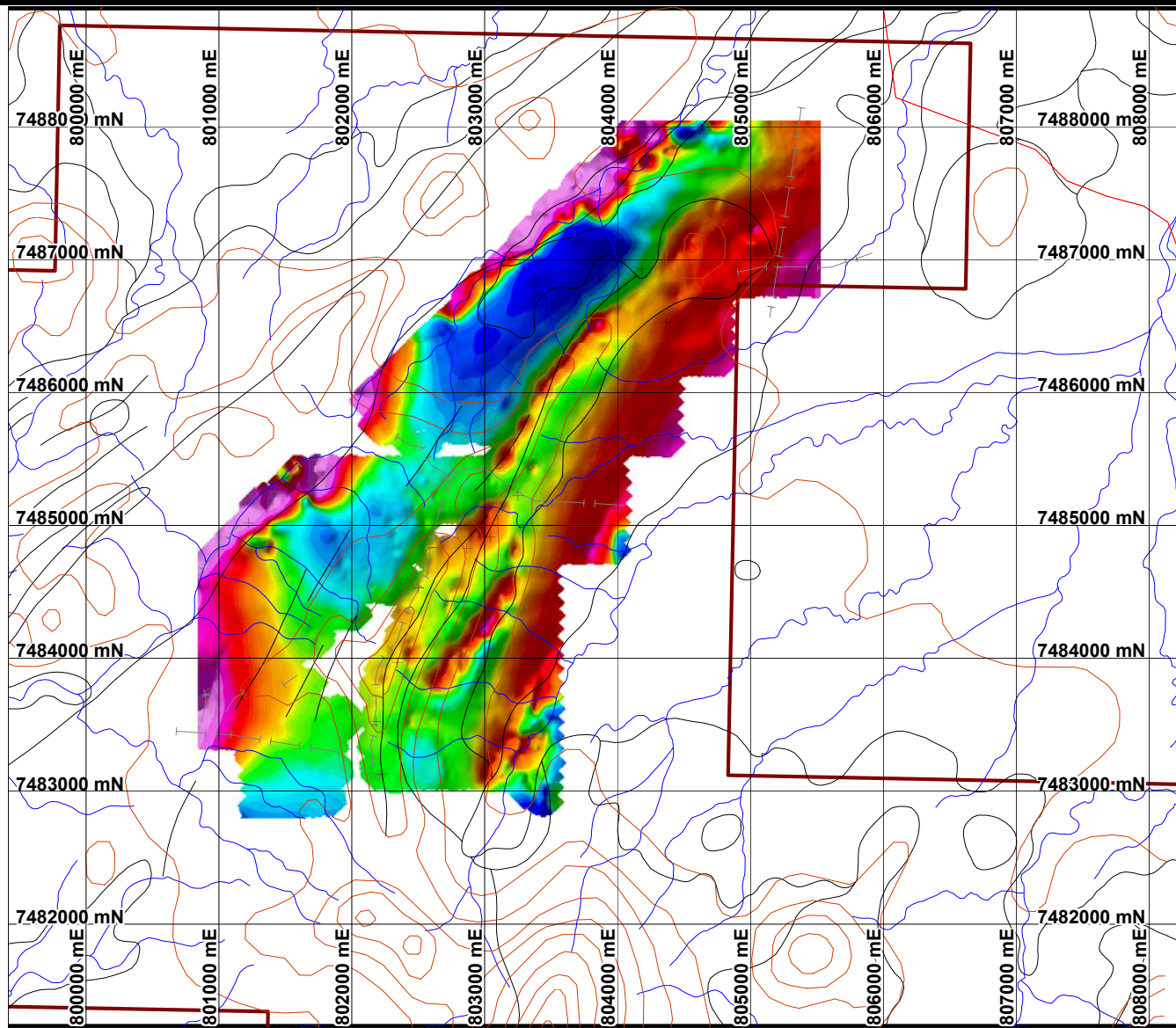
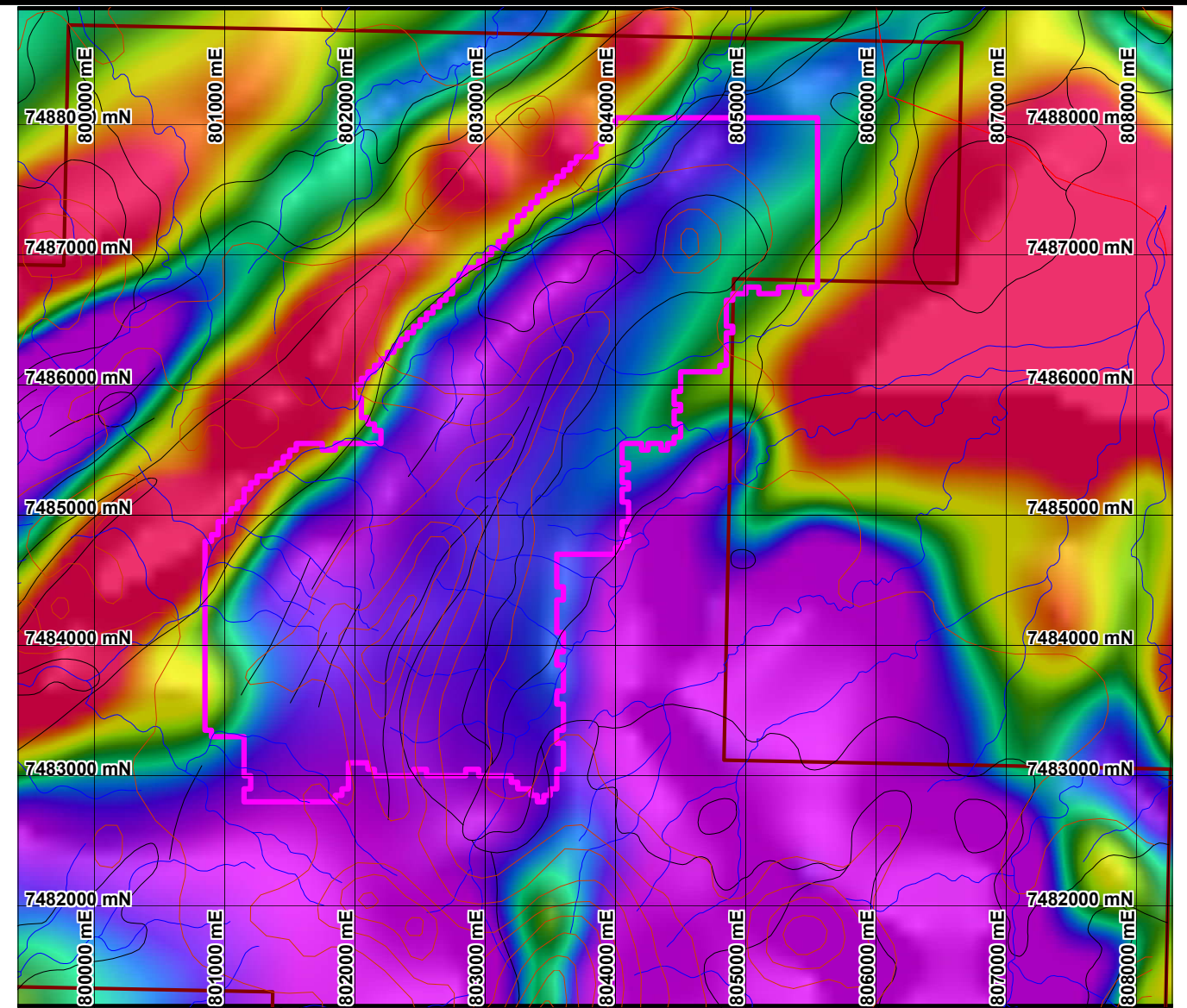


FIGURE 13
Nob Creek
Ground Magnetic Survey
May 2008
1VD - RTP

Upward Continuation: 20m



Ground Magnetism - TMI (Upward Continuation: 20m)



Airborne Magnetism - TMI

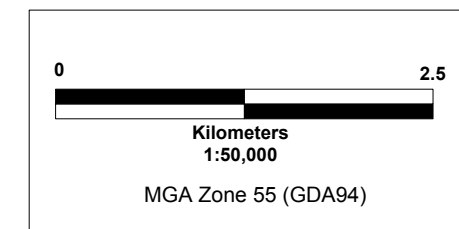
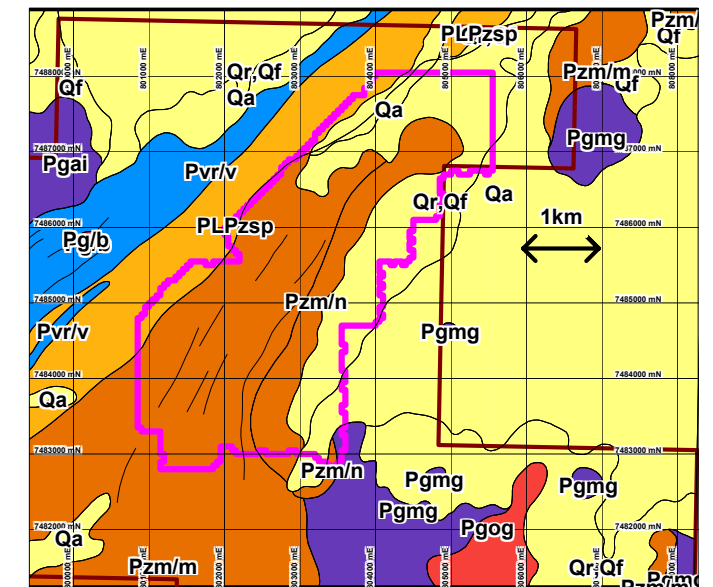
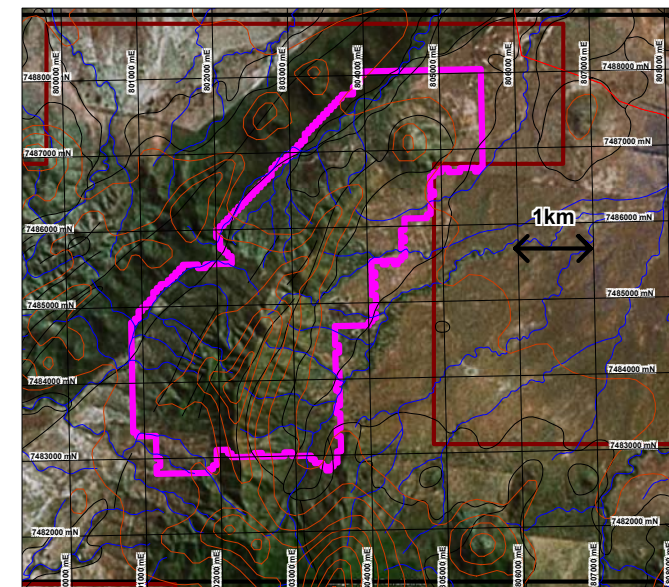
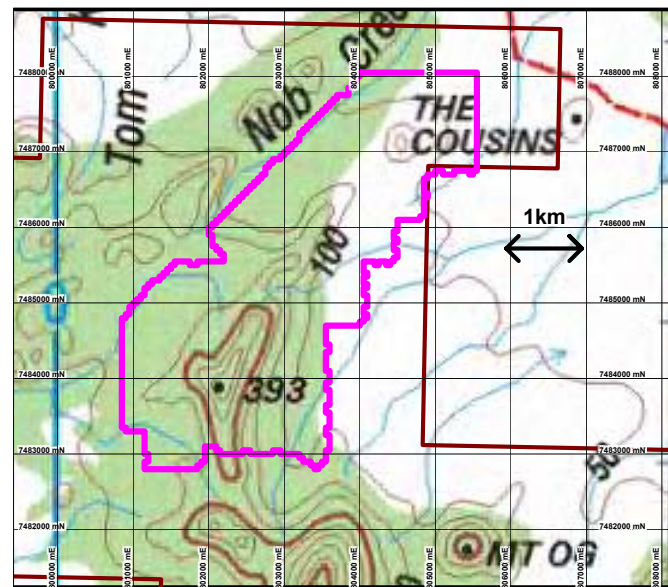
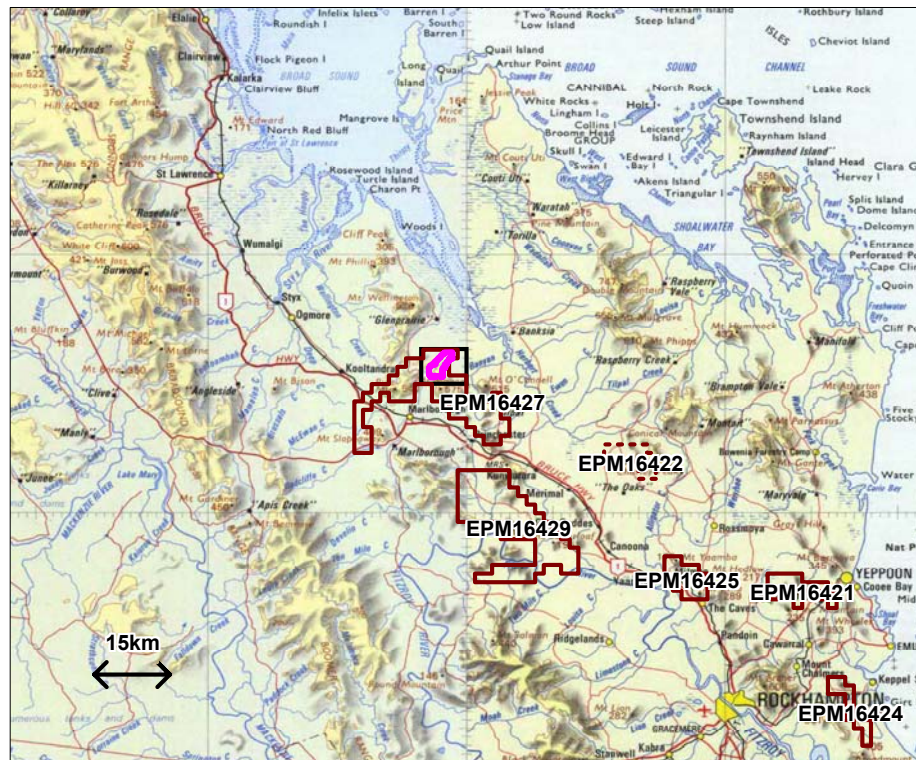


FIGURE 14
Nob Creek
Ground Magnetic Survey
May 2008
Magnetism Comparison

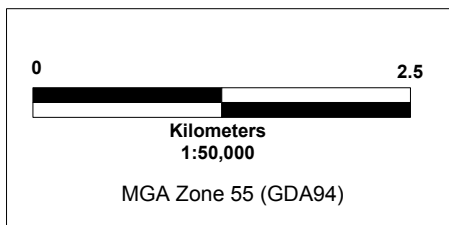
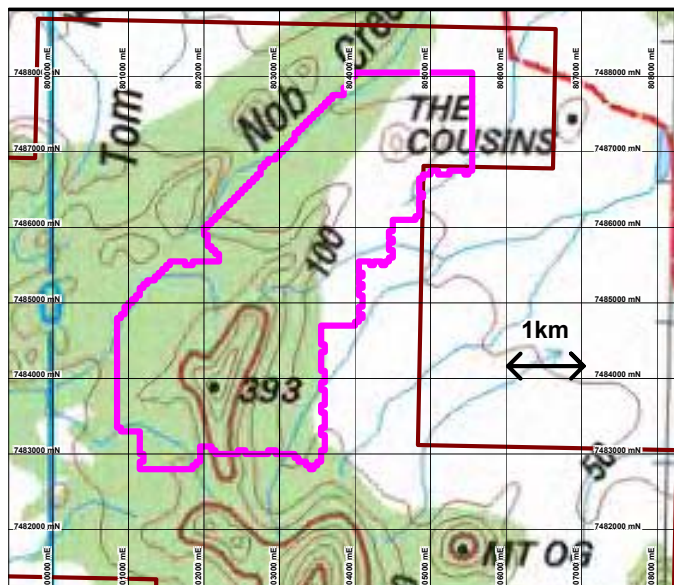
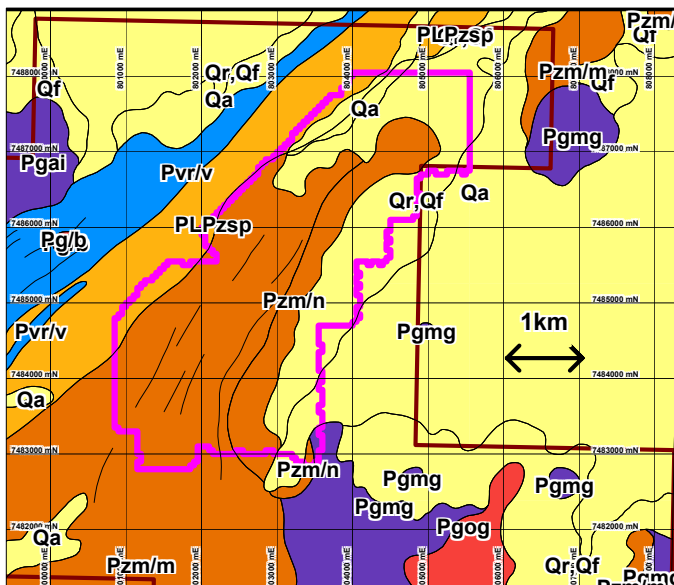
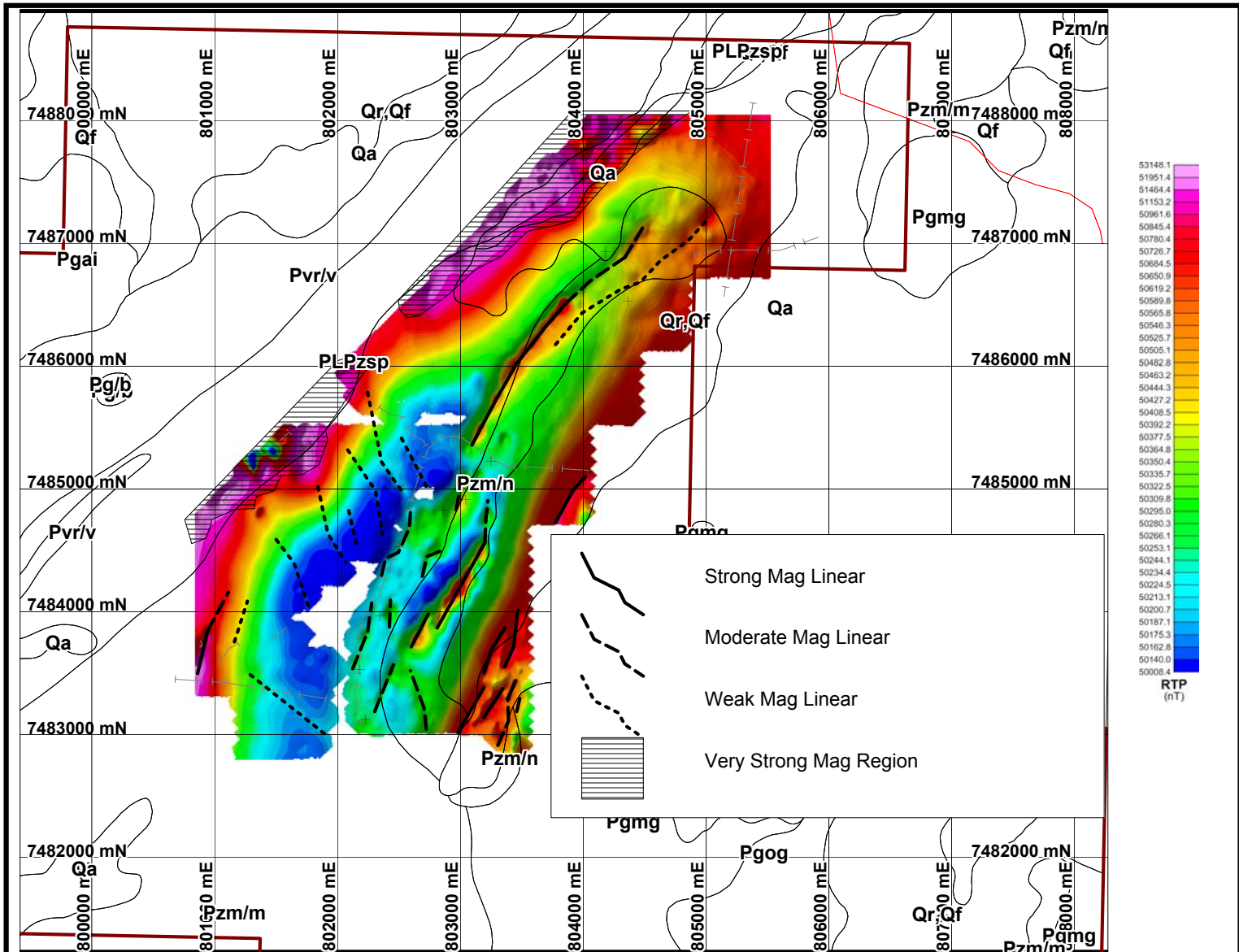
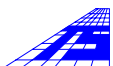


FIGURE 15
Nob Creek
Ground Magnetic Survey
May 2008
RTP - Mag Interp
 Upward Continuation: 20m



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5. Data Delivery

Data is presented on the accompanying CD. It consists of :

- GEMSYS raw field data and G856 base station raw data for each day of the survey.
- The quality assured, leveled data in both ascii (.csv) and geosoft database (.gdb) formats.
- Gridded DEM, TMI, UC10, RTP, 1VD and AS data in both Geosoft grid (.grd) and ERMapper (.ers) formats.
- Registered MapInfo raster (.tab) DEM, TMI, UC10, RTP, 1VD and AS images.
- Adobe Acrobat (.pdf) versions of the report figures are also supplied in the Images directory as well as a copy of this report.

Appendix A: Processing Details

The first step in processing was to examine the base station data for any possible erroneous readings. As a check on the local base station data, the geomagnetic observatory data for the period of the survey was downloaded from the Geoscience Australia website. Figure A.1 shows the base station data for both the Nob Ck base station and a best fit (10-parameter) of the government data to the local base station. The correlation between the fitted data and the local base station is excellent. Due to the good correlation of the local base station data with the government fit (the difference between the good local data and the fit has a standard deviation of 2.2nT), it was decided to use the government fit for all diurnal corrections.

Diurnal corrections were applied to the raw survey magnetic intensities using the fitted curve to the local base station. The diurnal correction amounts to an algebraic shift of the field data based on the difference between the base station at the time of the field reading and a base datum for the survey. The base datum chosen for the survey (50690.48nT) was the mean base station fit value over the fit period.

A control point was used for to verify the accuracy of the survey. In total 179 control point readings were taken. The precision of the magnetic intensity reading is represented by their standard deviation of 2.8nT. These values suggest that the overall accuracy of the survey is about 5nT. The mean values for the control point readings are as follows (standard deviations in brackets):

- No. Controls: 179
- East (m MGA55): 798706.7 (3.2)
- North (m MGA55): 7484167.0 (3.0)
- Elevation (m): 191.1 (9.1)
- TMI (nT): 50673.5 (2.8)

Suspect field data points were removed. This involved first removing points where no time increment was recorded due to poor GPS signal preventing synchronization with satellites. Following this, points with anomalous gradients, determined between a data point and its immediate neighbours, in the elevation, magnetic intensity or horizontal distance, were removed. These criteria were chosen because anomalous gradients in the elevation and horizontal distance between points are invariably caused by erroneous GPS readings, and there are usually some anomalous magnetic intensity readings which are not physically realistic. After the removal of these points, the gradients were recalculated, and points with anomalous gradients (using twice the standard deviation of the original dataset as the threshold) were also removed. This process was repeated until no anomalous gradients remained in the data.

Figures A.1 - A.5 shows the data as a function of time. Figure A.1 shows the base station variation, with red points where a local base station value was recorded, a blue line for the fit to this data based on the government base stations, and the black points forming a horizontal line along the base fit mean show the times where a field station was recorded. Figures A.2 - A.5 show the Gemsys time series, with the control stations shown as green circles, the points removed during processing shown as red crosses and the quality assured final stations shown as black dots.

Nob Creek
Base Station TMI vs Time

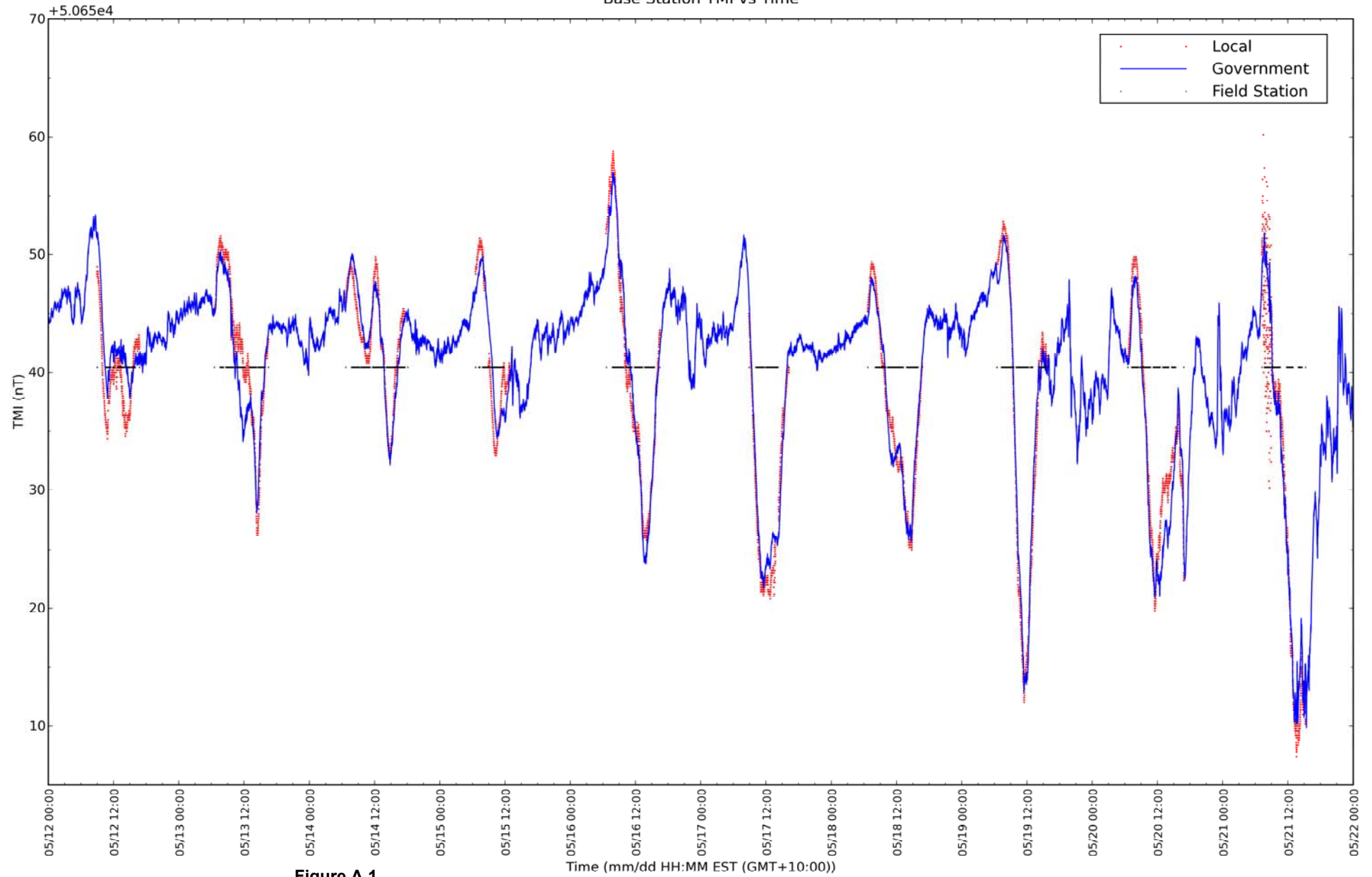
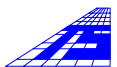


Figure A.1
Nob Creek
Ground Magnetic Survey
May 2008
Base TMI Time Series



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Nob Creek
Station Easting vs Time

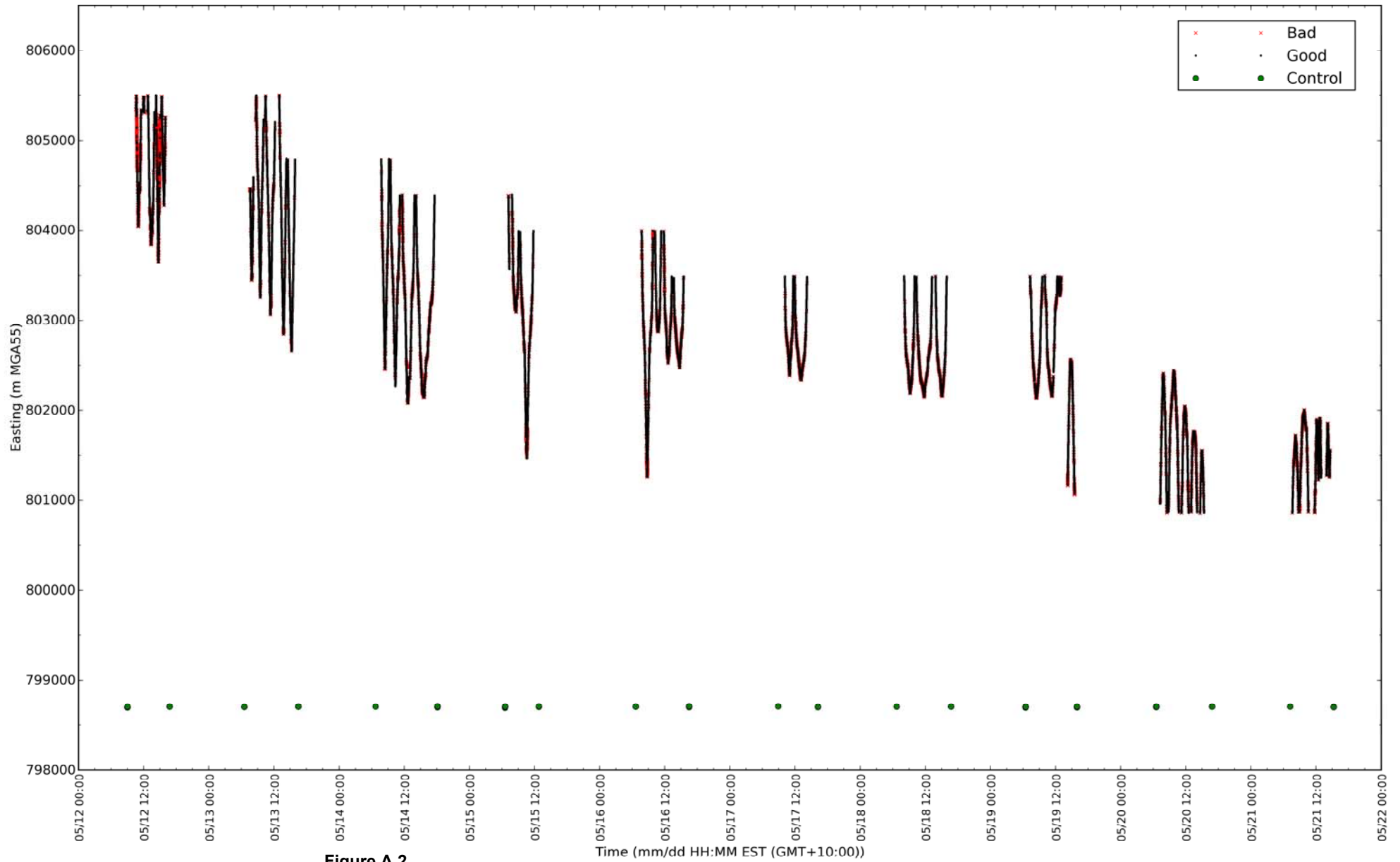


Figure A.2
Nob Creek
Ground Magnetic Survey
May 2008
Easting Time Series

Nob Creek
Station Northing vs Time

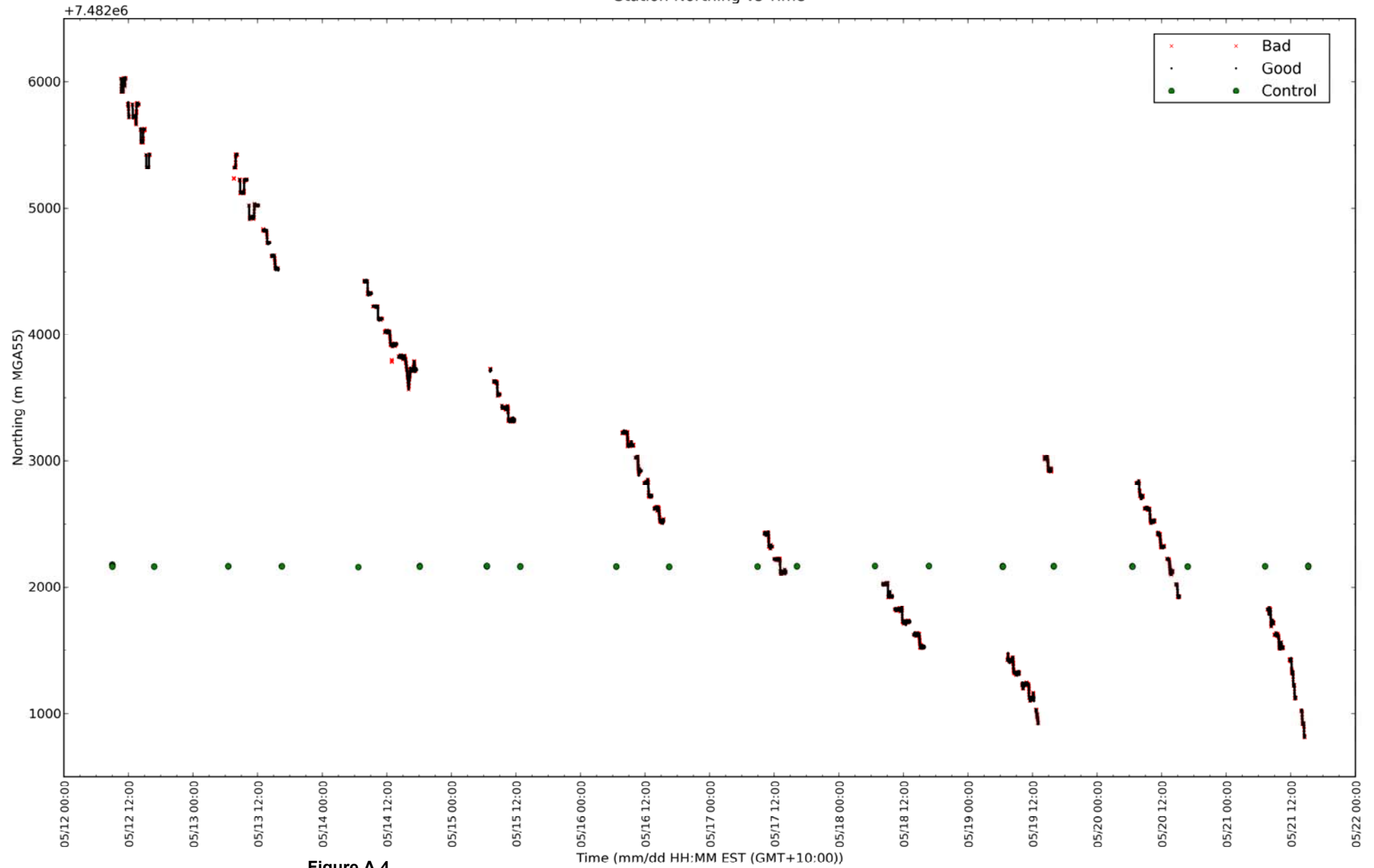


Figure A.4
Nob Creek
Ground Magnetic Survey
May 2008
Northing Time Series

Nob Creek
Station Elevation vs Time

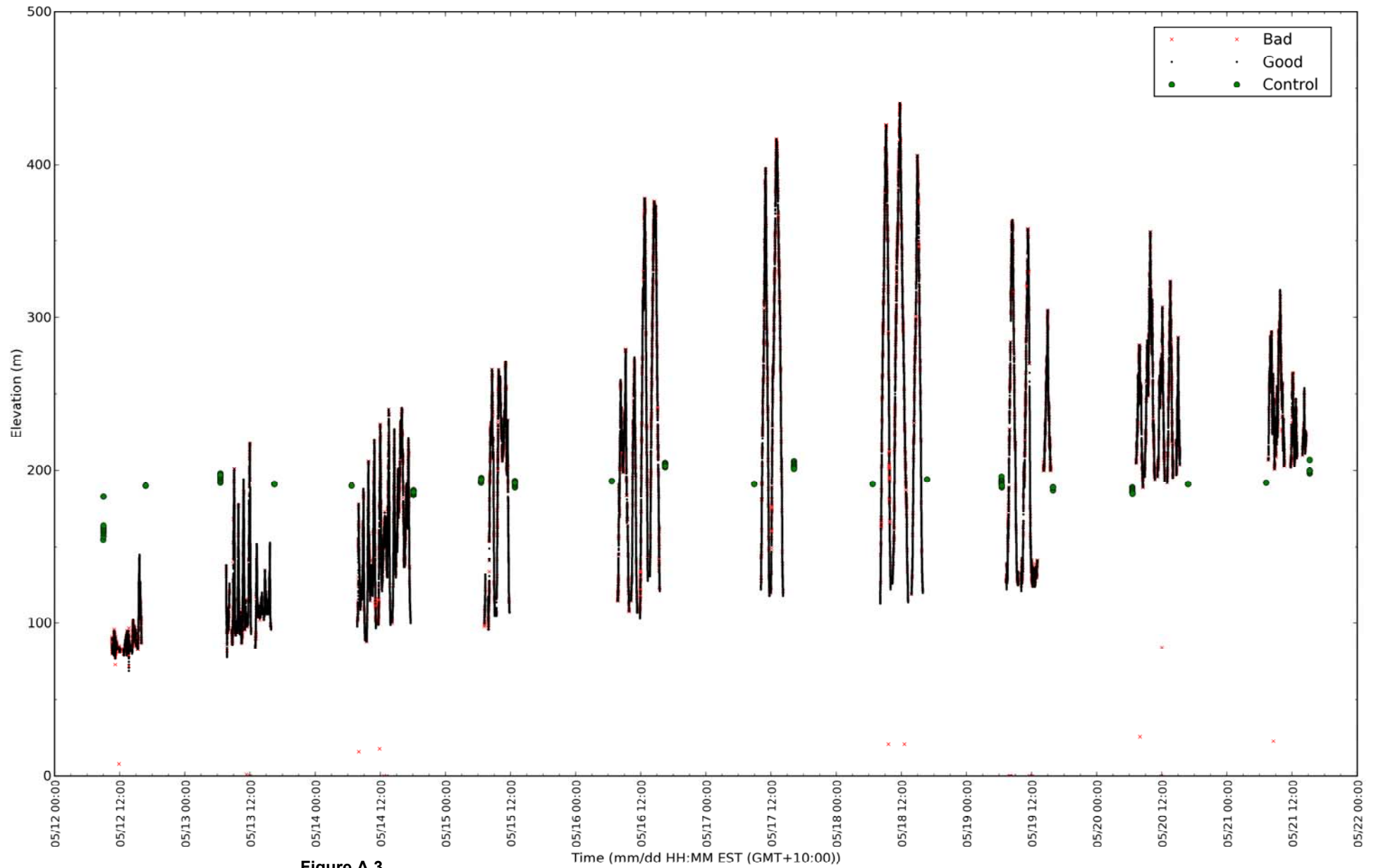


Figure A.3
Nob Creek
Ground Magnetic Survey
May 2008
Elevation Time Series

Nob Creek
Station TMI vs Time

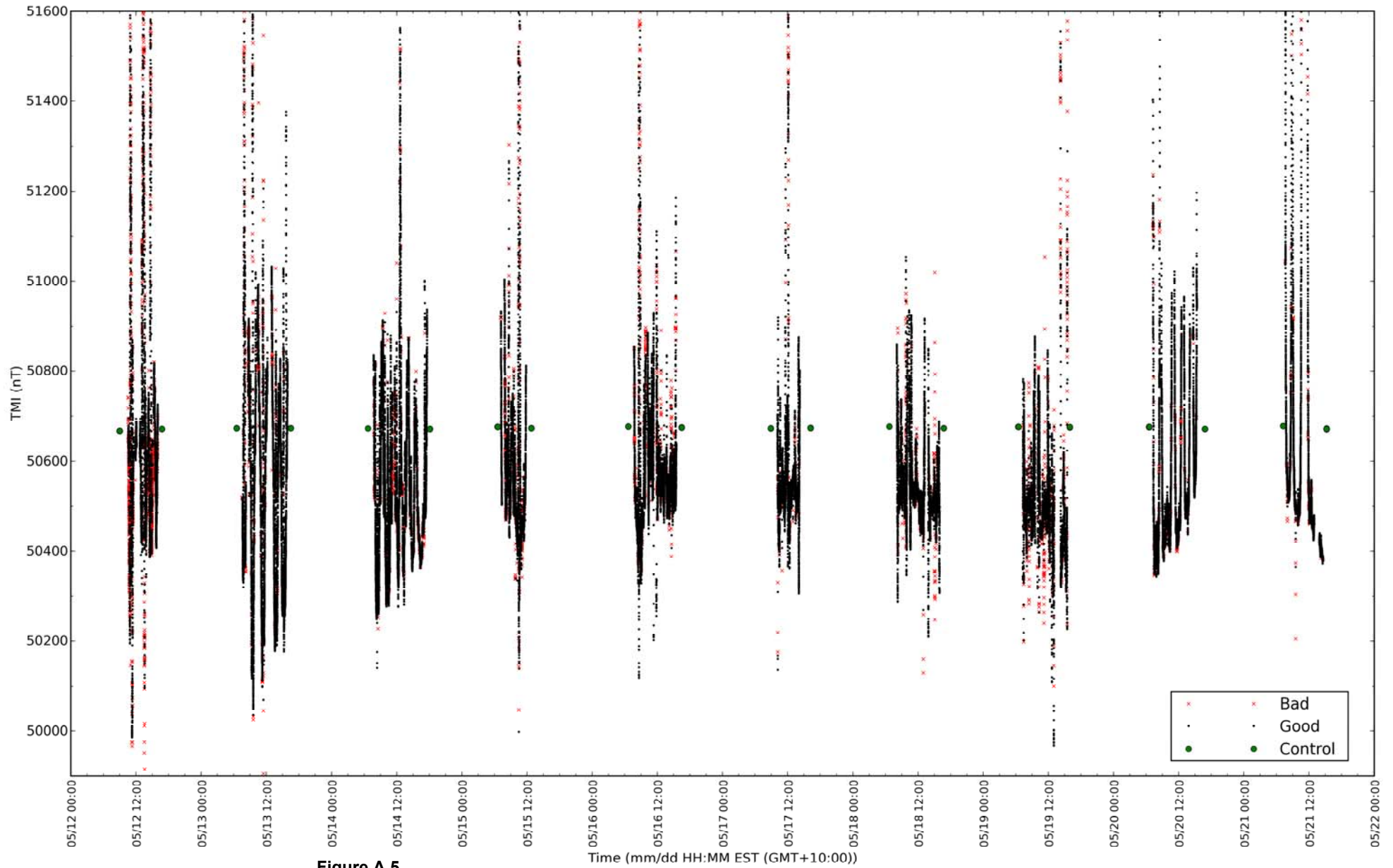


Figure A.5
Nob Creek
Ground Magnetic Survey
May 2008
Station TMI Time Series